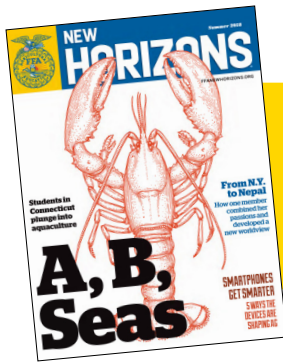




NEW HORIZONS

SUMMER 2018 TEACHING GUIDE



IN THIS GUIDE, YOU WILL FIND ACTIVITIES FOR SIX ARTICLES IN THE SUMMER 2018 ISSUE OF FFA NEW HORIZONS. WORKSHEET ANSWER KEYS CAN BE FOUND AT THE END OF THE ACTIVITY WORKSHEET. THE ACTIVITIES ARE ALIGNED TO EDUCATIONAL STANDARDS (SEE EACH ACTIVITY FOR THE SPECIFIC STANDARDS).

SCHOLARS SAY...

A compiled list of discipline-specific or academic vocabulary found throughout this issue of FFA New Horizons:

Global	Eradicate	Collaborate
Integrated	Habitat	Curriculum
Irrigation	National Park	Generate
Laureates	Service	Food desert
Life science	U. S. Youth Conservation Corps	Supercomputer
Norman Borlaug	USDA Forest	Artificial intelligence
World Food Prize	Service	Virtual reality
Aquaculture	Commitment	Evolve
Aquaponics	Cooperative	Accelerometer
Blanch	Foundation	Gyroscope
Crustacean	Innovative	Magnetometer
Maritime	Recruiting	Barometer
Mollusk	Entrepreneurs	Augmented reality
Bureau of Land Management	Implement	Image recognition

VOCABULARY ACTIVITY

Materials Required:

2 Flyswatters
Marker Board

Flyswatter Game: Randomly write all the vocabulary words on the board (or post them in an area of the room). Divide the class into two teams. Have a representative from each team come up to the board; give each a flyswatter. Read the definition for each of the vocabulary words. The first student to "swat" the correct vocabulary word wins. You can limit the number of times students are allowed to hit the board to keep them from guessing.

Source: <http://languagelearninggames.blogspot.com/2012/10/flyswatter-vocabulary-game.html>



A New Worldview:

Discover the path one FFA member took to prepare for her future career through a life-changing program, the World Food Prize Global Institute.

[Appendix 1 – A New Worldview](#)



Ag Under Water:

Searching for a way to feed a growing population, Aqua students are learning how they can impact the world of agriculture as well as their futures.

[Appendix 2 – Ag Under Water](#)



Work in the Wild:

Working with the National Park Service, students are given a wonderful opportunity to learn about nature through the U.S. Youth Conservation Corps.

[Appendix 3 – Work in the Wild](#)

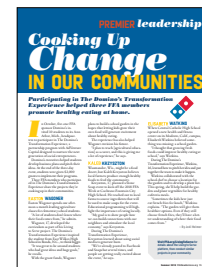


Dedication to Education:

Check this article out to learn about the CHS Foundation and its long-standing partnership with FFA.

[Appendix 4 – Dedication to Education](#)

[Appendix 5 – 2017 CHS Giving Report](#)



Cooking Up Change in Our Communities:

Find out how FFA members learned about business by participating in the Dominos AdVenture Capital Experience.

[Appendix 6 – 3-2-1 What Does My Community Need?](#)

[Appendix 7 – Sample Template Grant Application](#)

[Appendix 8 – Example High Quality Grant Application](#)

[Appendix 9 – Cooking Up Change in Our Communities](#)



Smartphones Get Smarter:

Face ID, augmented reality, image recognition. Read this article to learn about the ever-evolving technology of smartphones.

[Appendix 10 – Smartphones Get Smarter](#)



NEW HORIZONS

SUMMER 2018 TEACHING GUIDE



ARTICLE SUMMARY

A New Worldview

The article "A New Worldview" shows how FFA led Bella Culotta to her passion for agriculture on a global level. During her senior year of high school, Culotta was accepted into the Thompkins-Seneca-Tioga Board of Cooperative Educational Services New Visions in Life Sciences program at Cornell University where she had the chance to become an FFA member. While in FFA, she was introduced to the World Food Prize Global Youth Institute, which led to an opportunity that has had a lasting impact on her life.

BELL RINGER:

What impact will FFA have on your future?

DISCUSSION QUESTIONS

1. What role does FFA play in preparing you for your future goals?
2. What opportunities does FFA provide you?
3. What is the World Food Prize Global Youth Institute, and how can you get involved?
4. What impact could the World Food Prize Global Youth Institute have on you?

ACTIVITY

Students should complete the bell ringer activity listed above. Have students answer the bell ringer question on their own papers. Once students have written their responses, have them discuss their answers with their neighbors. After five minutes, call on a few groups to share their answers. Generate a list together.

After students read the article, they should complete the "New World View" worksheet (Appendix 1). Internet access is required for this activity. The worksheet has two parts:

1. Learn about Culotta's program and the World Food Prize Global Youth Institute.
2. See where the World Food Prize Global Youth Institute led Culotta.

Have students complete the exit ticket on their papers. If there is time, have students share their experiences with the class.

FFA TIP

The National FFA Agriscience Fair is a great way to have an impact on your local community. FFA members can also incorporate this knowledge into a paper and apply to the World Food Prize Global Youth Institute.

SAE TIP

Do you have students interested in writing, filming, blogging, interviewing or reporting? Reporting on agricultural topics and supervised agricultural experience (SAE) programs to the public through websites, radio shows, podcasts, and webzine, magazine and newspaper articles makes a great agricultural communications SAE. Submit reports to the local/regional newspaper or radio and TV station.

VOCABULARY

Global
Integrated
Irrigation
Laureates
Life science
Norman Borlaug
World Food Prize

EXIT TICKET

What types of global experiences could directly impact your future career goals?
How could FFA be involved?

CAREER FOCUS AREA

Any

RELATABLE WEBSITE

Global Youth Institute: https://www.worldfoodprize.org/en/youth_programs/global_youth_institute/

RESOURCE HIGHLIGHTS

Are your students eager for experiences beyond their backyards? Are they looking to make a lasting impact? Check out the World Food Prize Global Youth Institute, which is hosted each year. Through this unique opportunity, students can have world-impacting conversations with innovators and leaders. Students can also branch out and potentially earn internships in other countries where their impact can be seen for generations.

APPENDICIES

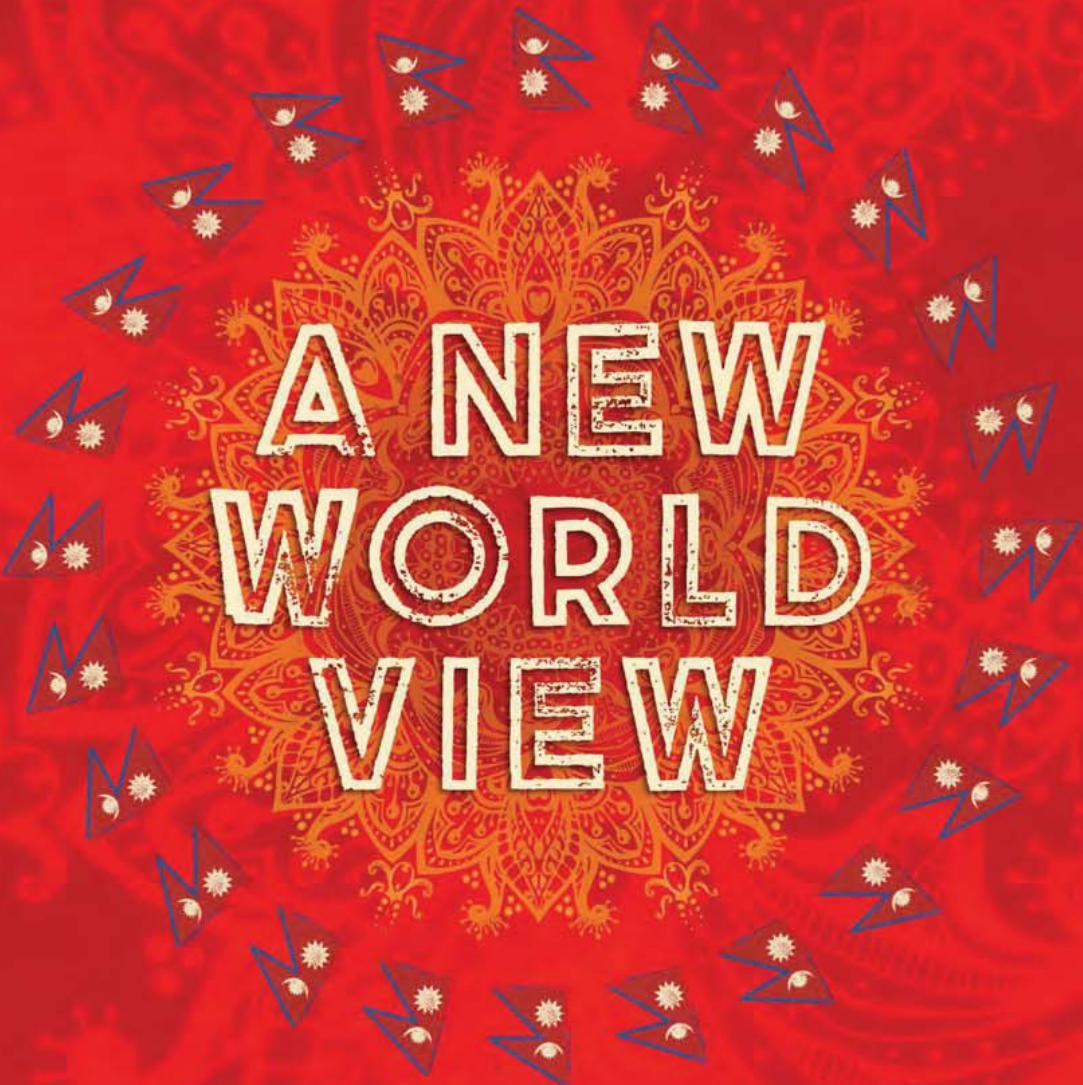
Appendix 1 - New Worldview

REFERENCES

Global Youth Institute: https://www.worldfoodprize.org/en/youth_programs/global_youth_institute/

STANDARDS ALIGNMENT

• **AFNR PERFORMANCE ELEMENT:** CS.05 • **FFA PRECEPT:** FFA.PL-A.Action, FFA.PL-C.Vision, FFA.PL-F.Continuous Improvement, FFA.PG-I.Professional Growth, FFA.PG-J.Mental Growth, FFA.PL-E.Awareness
• **COMMON CAREER TECHNICAL CORE:** AG5 • **AFNR CAREER READY PRACTICES:** CRP04 • **P21 SKILLS:** Communication, Global Awareness, Literacy, Think Creatively



A NEW WORLD VIEW

AFTER JOINING FFA AS A HIGH SCHOOL SENIOR, BELLA CULOTTA FOUND A PASSION FOR AGRICULTURE ON A GLOBAL LEVEL.

STORY BY JESSICA WALKER BOEHM

The phrase “better late than never” perfectly describes Isabella “Bella” Culotta’s FFA experience, which almost didn’t happen at all.

Culotta’s high school in Ithaca, N.Y., didn’t offer an FFA program, and she didn’t know much about agriculture. However, that all changed when she had the opportunity to become an FFA member during her senior year, after being accepted into the Tompkins-Seneca-Tioga (TST) Board of Cooperative Educational Services (BOCES) New

Visions in Life Sciences program at Cornell University.

Along with making the most of her short time in the organization, she made memories and connections that will likely last a lifetime and – thanks in part to FFA – is now on a path to pursue a career in global agriculture.

THE FFA JOURNEY BEGINS

In 2016, Culotta started attending courses at the TST BOCES New Visions in Life Sciences program, a full-year program for high-achieving high school seniors from nine Ithaca-area schools. The program enables participants to explore their interest

of life processes and the world around them from a biological and social perspective through both classroom and experiential learning opportunities.

The program required her to join the TST BOCES New Visions FFA Chapter, and Culotta was elected co-president by her 13 fellow chapter members.

“Bella is a great listener, which is one reason she’s such a strong leader,” says Michele Kline, agricultural sciences teacher and FFA advisor for TST BOCES New Visions in Life Sciences at Cornell University. “She is confident, well-spoken and capable of inspiring change. As co-president,



Culotta (the second woman from the right) stands with women and children in Nepal, where her team was trying to secure a grant for a solar water pump.



NEPAL

security, and I realized for the first time how important agriculture is," Culotta says.

As a result, it's no surprise she was interested in attending the World Food Prize in Des Moines, Iowa, an event that emphasizes the importance of a nutritious and sustainable food supply for all people.

FROM FFA TO ANYWHERE

With Kline's support, Culotta applied for and won an all-expenses-paid trip to the three-day Global Youth Institute hosted by the World Food Prize Foundation in the fall of 2016.

At the event, Culotta interacted with Nobel Prize and World Food Prize laureates, and exchanged views about pressing food security and agricultural issues with international ex-

perts during roundtable discussions. In addition, she met FFA members from around the U.S. and presented a paper on the theme "Feeding Innovation, Fighting Hunger" to a group of 300 attendees while wearing her blue FFA jacket. Culotta says it was a special, unifying experience that she will never forget.

"It was at the World Food Prize where I saw how impactful FFA really is, and I felt honored to wear the blue jacket and be part of this incredible community of supportive, passionate people," she says. "At the World Food Prize, I began to understand how the agriculture industry works in our country and beyond as I connected with people from all over the world. It was an amazing experience, and I left with so much motivation to learn as much as I could about agriculture."

That motivation spurred Culotta to apply for the Borlaug-Ruan International Internship, a prestigious opportunity available to students who have participated in the World Food Prize Global Youth Institute.

Bella facilitated many discussions that enabled our chapter to accomplish its tasks and goals, and she was an excellent presenter of the group."

Having been part of the Ithaca High School Model United Nations Club, Culotta had an existing interest in international policy and development, but it was FFA that opened her eyes to the world of agriculture and how the two concepts tied together.

"I saw a huge connection between international development and food

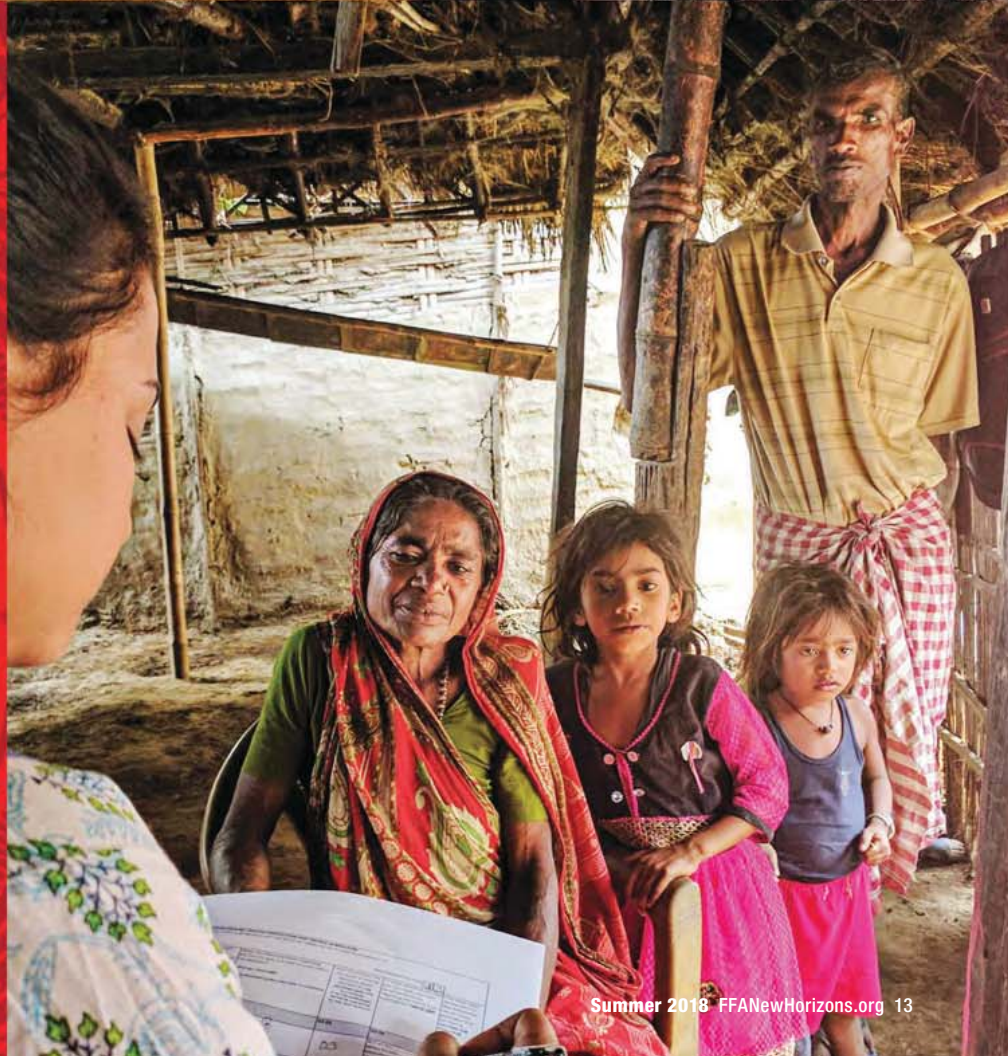


Above, left: Culotta interviews a husband and wife in the Saptari district of Nepal. Above, right: Culotta helps locals study a questionnaire that they will help researchers administer. Right: Culotta conducts research in the field with a Nepali family.

She was selected for an internship and spent eight weeks in Nepal during the summer of 2017. During her internship, Culotta worked at the International Centre for Integrated Mountain Development, a regional intergovernmental learning and knowledge-sharing center in Patan. Her work focused on a solar-powered irrigation pump project designed to improve rural women's lives in the region.

After coming home from what she calls a "life-changing experience," Culotta was invited to discuss her time in Nepal at the 2017 World Food Prize as a student delegate with the New York Youth Institute Seeds for Change program.

"I encourage everyone to be open to whatever comes across his or her path, and to remain a humble and





Culotta was invited to discuss her time in Nepal at the 2017 World Food Prize in Des Moines, Iowa.

IT'S A WIDE WORLD

If you're looking for opportunities to see the world while learning more about ever-changing global food systems and becoming more culturally aware, consider applying for one of the organization's global programs.

For example, there's the annual International Leadership Seminar for State Officers (ILSSO), which is open to current and past state officers. Previous ILSSO trips have included journeys to South Africa, Taiwan and Thailand, and participants typically spend about two weeks visiting farms and agribusinesses as well as sharing in the local culture.

Another international opportunity is the National FFA Officers Global Experience that takes place each January and is available to the six national officers. In the past, the officers have traveled to Japan for 10 days to hone their leadership skills and learn about Japanese agriculture while interacting with Future Farmers of Japan members and teaching Japanese students about FFA and American agriculture. Additionally, attendees get a true taste of the country's unique culture by staying with Japanese host families and participating in traditional Japanese events and ceremonies.

To learn more about the ILSSO and the National FFA Officers Global Experience, visit FFA.org/global. You can see snapshots of this year's ILSSO trip by searching for the hashtag "#ILSSO18" on Twitter and Instagram.

Not eligible for the ILSSO or the National FFA Officers Global Experience? You can also work with your FFA chapter to create global travel opportunities. Consider discussing the possibility of an international agriculture trip with your chapter's advisor, officers and alumni and supporters chapter, and, if necessary, organize a fundraising committee to garner financial support. Visit FFA.org/localengagement to see if any of the grants, retail programs or other fundraisers work for you. •

curious sponge of information," she says. "You never know where life might take you. I never saw the World Food Prize or the Borlaug-Ruan Internship on my path, but I love how it's all unfolded, thanks to TST BOCES New Visions in Life Sciences and FFA."

THE FUTURE LOOKS BRIGHT

After she returns from several months abroad, which will include time working on developing farms in East African villages, Culotta plans to attend Cornell University this fall.

She is currently considering double majoring in applied economics and management, and she aspires to work as an agricultural development consultant and, eventually, teach others about the global food system while inspiring them to get involved.

"Bella wants to make a difference

in the world, and I have no doubt she will," Kline says. "She sees that things are not equitable in many areas of society, especially when it comes to food security, and she wants to do what she can to improve the problem both domestically and globally."

Although her time as FFA co-president has come to an end, Culotta is a member of the New York FFA Alumni Association and continues to encourage others to join FFA if they have the chance.

"Being part of FFA is a really good way to take what you know and apply it to something because it's hands-on education, which is so valuable," Culotta says. "Plus, you meet great people, and you have an instant bond with other FFA members who might even become lifelong friends. There are seemingly endless opportunities in FFA; you can do and see so much with the blue jacket, and that's not something to take for granted." •

NAME: _____

Appendix 1 – A New Worldview

Created: Summer 2018 by the National FFA Organization

DIRECTIONS:

Read the article "A New Worldview" in the summer issue of *FFA New Horizons*. As you read how FFA influenced Bella Culotta, complete the activities below.

Culotta's school did not offer FFA, so what did she do?

Describe the Tompkins-Seneca-Tioga (TST) Board of Cooperative Educational Services (BOCES) New Visions in Life Sciences program.

How does the TST BOCES program compare to the FFA program offered at your school?



What is the World Food Prize Global Youth Institute?

Who hosts this program?

NAME: _____

Using the provided map, place a ★ on the places Culotta has visited/worked and label them.



Using a minimum of three sentences, describe how you can get global experiences that will have a meaningful and long-lasting impact on your future.

What opportunities exist in your program that you can take advantage of to reach your future goals?



NEW HORIZONS

SUMMER 2018 TEACHING GUIDE



ARTICLE SUMMARY

Ag Under Water

In Bridgeport, Conn., aquaculture isn't just a subject in school — it's a hands-on learning tool to engage students in the world of agriculture and the life sciences. Students at the Bridgeport Regional Aquaculture Center (Aqua) learn science and agriculture through a unique curriculum that centers around aquaculture, or the farming of aquatic organisms. Through this program, both students and parents learn in and out of the classroom. With the need to feed a growing population always at the forefront of discussions, Aqua students are learning how they can impact agriculture as well as their futures.

BELL RINGER:

What is aquaculture? What impact does aquaculture have on the economy?

DISCUSSION QUESTIONS

1. What is aquaculture?
2. What role will aquaculture play in the future?
3. Why are sustainably sourced foods important?
4. What role does labeling play in our food system?
5. What school-based and career-based opportunities are available in aquaculture?

ACTIVITY

Students should first complete the bell ringer activity listed above. Have students answer the bell ringer question on their papers. Once students have written their responses, have them discuss their answers with their neighbors. After five minutes, call on a few groups to share their answers. Generate a list together. Hand out the "Ag Under Water" worksheet (Appendix 2) and have students complete the grocery store activity.

Students should read the article and complete the rest of the "Ag Under Water" worksheet. Internet access is required for this activity. The worksheet has two parts:

1. Learn about the world of aquaculture and the role it could play in future careers.
2. "Give It a Try."

Have students complete the exit ticket on their papers. If there is time, have students share their experiences with the class.

FFA TIP

Implement an aquaculture or aquaponics system in your local chapter to learn about aquatic farming. Students can also compete in their state Envirothon contest, which incorporates fish identification and knowledge.

SAE TIP

What aquaculture facilities are in your area? Do they offer tours? Do they need workers or interns? Would someone from the facility be willing to do a presentation to your class?

Assign students to research available careers in aquaculture and determine what the training and/or education requirements are to enter one of those careers.

Ask students to investigate or create plans for a small-scale aquaculture facility to grow gold fish for the local pet store.

Help your students create a school-based enterprise SAE raising fish in your greenhouse, shop or lab for local restaurants or pet stores.

VOCABULARY

Aquaculture
Aquaponics
Blanch
Crustacean
Maritime
Mollusk

EXIT TICKET

What role will aquaculture play in the ability to feed a growing population in the future?

CAREER FOCUS AREAS

Animal Systems
Biotechnology Systems
Environmental Service Systems
Natural Resource Systems
Plant Science Systems

RELATABLE WEBSITES

Aquaculture Stewardship Council:
<https://www.asc-aqua.org/>

Auburn University School of Fisheries,
Aquaculture and Aquatic Sciences:
<http://sfaas.auburn.edu/>

University of Rhode Island Fisheries,
Animal and Veterinary Sciences: <https://web.uri.edu/favs/aquaculture-program/>

RESOURCE HIGHLIGHTS

Have you ever wondered where some of the seafood you eat comes from? Welcome to the world of aquaculture! Aquaculture is a means by which we farm aquatic species that can then be used for everyday consumption. In this article, you will learn how aquaculture has made a splash in one FFA chapter located in Bridgeport, Conn. and what opportunities the area of aquaculture could provide.

APPENDICIES

Appendix 2 – Ag Under Water

REFERENCES

Aquaculture Stewardship Council:
<https://www.asc-aqua.org/>

AgExplorer: AgExplorer.FFA.org

STANDARDS ALIGNMENT

• **AFNR PERFORMANCE ELEMENT:** CS.02, CS.05 • **FFA PRECEPT:** FFA.PL-A.Action, FFA.PL-C.Vision, FFA.PL-F.Continuous Improvement, FFA.PL-E.Awareness, FFA.PG-J.Mental Growth, FFA.CS-N.Decision Making
• **COMMON CAREER TECHNICAL CORE:** AG2 • **COMMON CORE - SPEAKING AND LISTENING:** CCSS.SL.9-10.2 • **AFNR CAREER READY PRACTICES:** CRP.02, CRP.04, CRP.06 • **P21 SKILLS:** Communication, Environmental Literacy, Global Awareness, Think Creatively

The background of the entire page is a close-up, top-down view of a grid of white, circular containers, likely part of an aquaculture system. Some containers are filled with dark water, while others contain small, blue crabs. The containers are arranged in a staggered pattern, creating a repeating geometric motif.

AG UNDER WATER

**This school
dives deep into
aquaculture to help
students discover
personal growth
and career
success.**

**Story by
Justin Davey**

**Photography by
David Ekstrom**



Large tanks bubble as koi do slow, meandering laps. Aquariums gurgle while lobsters peer through the glass. Vats of seaweed prepare to be processed. Elsewhere, fiberglass bends over a wooden frame and a boat hull starts to take shape. Cabinets are filled with beakers for tomorrow's experiments. Several research vessels sit at a dock outside, ready for their next venture to the Long Island Sound.

For a high school student interested in aquaculture – that is, the farming of aquatic organisms such as fish, mollusks, crustaceans and aquatic plants – this setting might sound like a dream. After all, the facility houses an aquaculture lab, a computer-assisted design lab, a boat construction lab, a ship bridge simulator and more. It appears to be a lair used by professional scientists, but these tools and others are available to scientists in training – students of the Bridgeport Regional Aquaculture Center, or Aqua, for short, in Bridgeport, Conn.

SPECIALIZED SCIENCE

At Aqua, students from school systems in the region can enhance the traditional high school curriculum with unique aquaculture classes. Students get the opportunity to study marine ecology, seafood science, biology, chemistry, physics, marine design, coastal navigation/piloting and more. It's a combination of world-class facilities, diverse coursework and great teachers that causes many students and families to make every effort to participate.

"Students come from seven school districts for two-hour blocks," says Liz Kranyik, the ag biology and seafood science teacher and FFA advisor at Aqua. "Most students really want to be here. They want experiences they won't get elsewhere, so our emphasis is to try to get them to use all of our facilities in some way."

Students share the same impression.

"I initially went to a different school for science classes, but I transferred to Aqua based on the school's reputation," says Casey O'Connor, an Aqua graduate and former Bridgeport Aquaculture FFA chapter president who now studies biochemistry at New York University. "The environment was fast-paced and hands-on. The chemistry labs have instruments often only offered in college."



Top, left: An Aqua student measures a lobster. Top, right: Aqua graduate Kyle Rosenfeld was a Bridgeport Aquaculture FFA member through high school. "We won our state agriscience fair one year; then we went on to place fourth nationally," he says. Above: Students of Aqua's seafood science course prepare algae, which they harvest on the Long Island Sound, for sale at the school's seafood market, Angie's at Aqua.



Clockwise from top left: Adjustments are made to a remotely operated vehicle. Liz Kranyik is the ag biology and seafood science teacher, and FFA advisor. Boat frames take shape in an Aqua lab. Graduate Casey O'Connor was drawn to Aqua by its fast-paced and hands-on environment. Kelp turns from brown to bright green after it is processed. Graduate Cassidy Fawcett says she enjoyed working on the water.



“In one of my classes, we went out on the boat once a week to do hands-on lab work on the water,” adds Cassidy Fawcett, who graduated from Aqua last May and also served as a Bridgeport Aquaculture FFA chapter president. She’s now studying political science and biology at Salve Regina University in Newport, R.I.

One of the school’s most unique opportunities is a seafood science course that uses the school’s 56-foot research vessel, the *Catherine Moore*, to harvest algae. Teachers and students take the boat to the school’s seaweed farm on Long Island Sound and pull long ribbons of kelp onboard. The product is then noodled, blanched, vacuum sealed and sold along with other seafood at the school’s seafood market, Angie’s at Aqua, which is open to the public each week. “We are the only high

Cool Aquaculture Schools

Aquaculture is one of the fastest-growing food-producing sectors, according to the Food and Agriculture Organization of the United Nations. As the demand for farmed fish continues to grow, so does the demand for experts to work in aquaculture.

These five schools offer programs in aquaculture to prepare students for careers in the field.

The Sound School: Curriculum at the New Haven, Conn., high school includes credits in aquaculture. Vocational classes are taught in a maritime environment to prepare students for careers in aquaculture.

Ocean Springs High School: In addition to classroom lessons, students get hands-on experience maintaining tanks of

fish and crabs. It’s the only high school aquaculture program in the state of Mississippi.

San Lorenzo Valley High School: Students raise tilapia in the hands-on program. The Fenton, Calif., school has a focus on aquaponics, connecting fish tanks to beds of herbs and vegetables, using fish waste as fertilizer.

Auburn University: The School of Fisheries Aquaculture and Aquatic Sciences offers undergraduate programs in fisheries science. Classes include fish hatchery management, commercial aquaculture and fish population assessment.

University of Rhode Island: One of the oldest aquaculture programs in the Northeast, the school offers undergraduate and graduate programs, including a bachelor of science in aquaculture and fisheries technology. – **By Jodi Helmer**



school that processes algae for public sale,” Kranyik says. The sugar kelp sells for \$3.95 a pound.

“We aim for a student-run market, so the students have a lot of input in what we have here,” she says. “They are responsible for helping decide what we sell and then for pricing it. Students in other classes are responsible for working with the fishes to bring them to market size.”

FANS OF FFA

What’s more, 217 of the school’s 410 students are currently members of the Bridgeport Aquaculture FFA.

“I think membership is so high because the school offers so many opportunities,” says Kyle Rosenfeld, an Aqua graduate and current student at the University of San Francisco. Rosenfeld was a Bridgeport Aquaculture FFA member through high school and served as the chapter reporter and secretary. “We won our state agriscience fair one year; then we went on to place fourth nationally. Our project looked at the effects of eutrophication (excessive richness of nutrients in a body of water, frequently due to runoff from the land) on Long Island Sound.”

FFA allows students to explore career interests, and the programs offered at Aqua enhance that, Kranyik says. “In our seafood science class, we talk a lot about the allied industries that may never touch the food, yet, they are the support staff.

“The students also grow personally here, and it’s a way to bolster their self-confidence,” she adds. “They are responsible for dressing the fish however the customer wants.

“They apply all of the skills they’ve learned in our programs, and they put their best faces forward with the customers,” she

says. “If they can interact with the community here, then they can go talk to other people and take what they’ve learned to their first job. Their education becomes a real stepping stone for them.” •

Watch Online! To learn more about the education offered at the Bridgeport Regional Aquaculture Center, watch our video at FFANewHorizons.org/Aqua.

GIVE IT A TRY!

There are many opportunities for students and teachers to engage with aquaculture. Here are three ways to incorporate it into your life.

- **Buy farmed fish:** Shop the seafood aisle in the supermarket and look for farmed tilapia, oysters, shrimp and other seafood. Choose foods with the Aquaculture Stewardship Council label. The designation is given to fish farms that meet standards for responsible aquaculture.

- **Set up a mini system:**

Desktop aquaculture setups that combine a fish tank and herb garden are great for the classroom. The closed-loop system offers a lesson in how the fish waste fertilizes the plants and the plants clean the water.

- **Schedule a tour:** Many aquaculture facilities welcome group tours. A field trip will introduce FFA members to commercial-scale aquaculture and provide insight into getting a fish to the table.

– By Jodi Helmer



NAME: _____

Aligned to the following standards:
CS.02; CS.05; FFA.PL-A; FFA.PL-E; FFA.PL-C; FFA.PL-F; FFA.PG-J; FFA.CS-N; AG2;
CCSS.SL.9-10.2; CRP.02; CRP.04; CRP.06

Appendix 2 – Ag Under Water

Created: Summer 2018 by the National FFA Organization

DIRECTIONS:

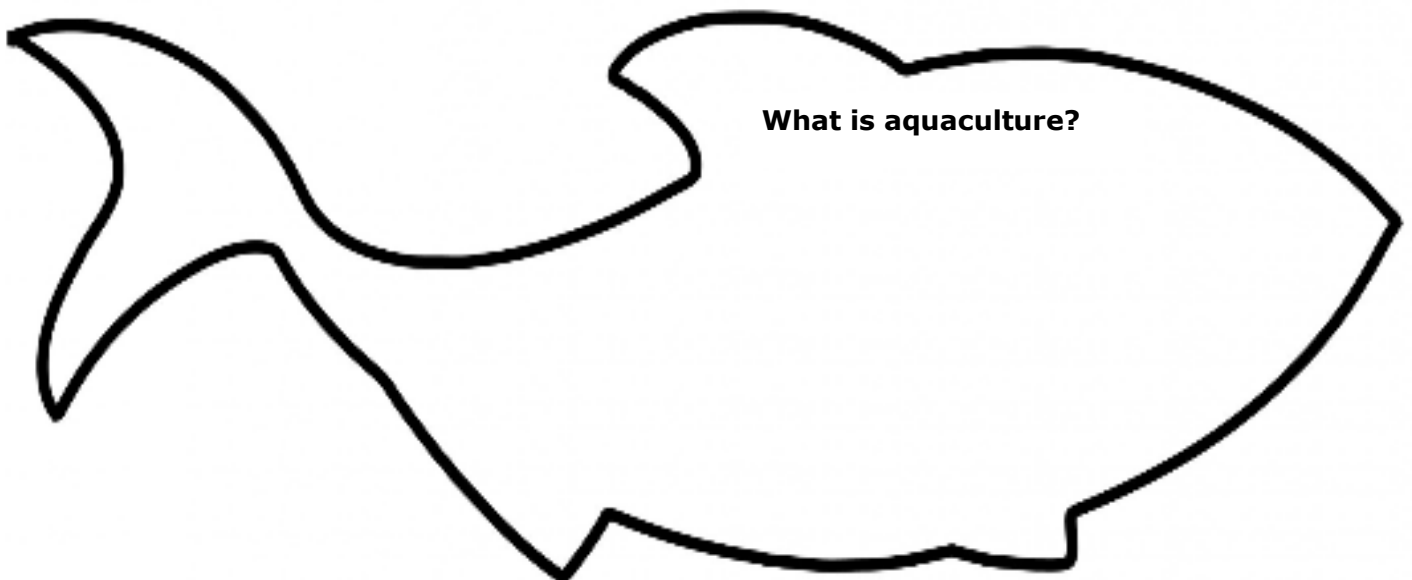
Circle all the images below that contain farmed aquatic organisms (ex: fish, mollusks, crustaceans and aquatic plants).

John Boy's Grocery Store



DIRECTIONS:

Read the "Ag Under Water" article in the summer 2018 issue of *FFA New Horizons* and complete the following activities.



NAME: _____

Aligned to the following standards:
CS.02; CS.05; FFA.PL-A; FFA.PL-E; FFA.PL-C; FFA.PL-F; FFA.PG-J; FFA.CS-N; AG2;
CCSS.SL.9-10.2; CRP.02; CRP.04; CRP.06

What coursework do students at Aqua take?

1. _____
2. _____
3. _____
4. _____



What coursework does your school offer that is similar to Aqua or would give you knowledge in aquaculture?

1. _____
2. _____
3. _____
4. _____



If you wanted to study aquaculture after high school, where could you go?

1. _____
2. _____

Using AgExplorer.FFA.org, identify three careers you could have in the field of aquaculture.

1. _____
2. _____
3. _____



NAME: _____

Aligned to the following standards:
CS.02; CS.05; FFA.PL-A; FFA.PL-E; FFA.PL-C; FFA.PL-F; FFA.PG-J; FFA.CS-N; AG2;
CCSS.SL.9-10.2; CRP.02; CRP.04; CRP.06

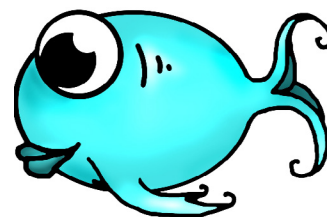
Give It a Try!

DIRECTIONS:

Watch the video "What is the ASC?" (<https://youtu.be/LHq-uer4ZJA>) and complete the following activity.

In the blanks for Questions 1, 2, and 3, identify ways you could incorporate aquaculture in your life no matter where you live. Then, answer the questions that follow.

1. _____
 - a. Draw the Aquaculture Stewardship Council label in the space below so you know what to look for in sustainably sourced aquatic products.
 - b. Why would you want to purchase products that are sustainably sourced? Why does this label matter?
2. _____
 - a. Draw and label a place and system in your school where you could incorporate some type of aquaculture.
3. _____
 - a. Research and find a place close to your school that you could visit to learn more about aquaculture systems. Record your response on the line.





NEW HORIZONS

SUMMER 2018 TEACHING GUIDE



ARTICLE SUMMARY

Work in the Wild

The outdoors and future career opportunities are calling! The National Park Service offers a unique opportunity for youth, ages 15 to 18, to become employed through the U.S. Youth Conservation Corps (YCC). Through this opportunity, students have the amazing opportunity to gain hands-on experiences in many of the national parks. In this article and lesson, students will learn about the U.S. YCC and the opportunities this program can afford while thinking critically about the opportunities being offered to them locally.

BELL RINGER:

What opportunities exist to gain hands-on experiences to prepare you for your future career?

DISCUSSION QUESTIONS

1. What is the National Park Service?
2. What is the U.S. Youth Conservation Corps?
3. How would gaining experiences through a program like U.S. YCC help prepare you for your future?
4. What similarities and differences exist between the U.S. YCC and your SAE?

ACTIVITY

Students should first complete the bell ringer activity as listed above. Have students answer the bell ringer question on their papers. Once all students have written down an answer, have them discuss and explain their answers with their neighbors. After five minutes, call on a few groups to share their answers. Generate a list together.

Next, have students read the article and then complete the "Work in the Wild" worksheet (Appendix 3). Internet access is required for this activity. The worksheet has two parts:

1. Learn about the National Park Service and U.S. Youth Conservation Corps and the role it could play in future careers.
2. Apply your learning through a blog.

Have students complete the exit ticket on their papers. If there is time, have students share those experiences with the class.

FFA TIP

Students can invite a local DNR or National Park Service worker to talk about the careers associated with their local natural resource systems.

SAE TIP

Assign students to investigate and report on local, state and national government agencies with youth work programs.

Is there a park, local historical site, nature trail, etc. in your community that a student could improve, maintain or create for an SAE? If there are no government funds, would local businesses or organizations fund such a project?

VOCABULARY

Bureau of Land Management
Eradicate
Habitat
National Park Service
U. S. Youth Conservation Corps
USDA Forest Service

EXIT TICKET

How can gaining hands-on experiences early help to prepare you for your chosen career field?

CAREER FOCUS AREA

Natural Resource Systems

RELATABLE WEBSITE

Youth Conservation Corps: <https://www.nps.gov/subjects/youthprograms/ycc.htm>

RESOURCE HIGHLIGHTS

The outdoors and future career opportunities are calling! The National Park Service hosts a paid program each summer called the U.S. Youth Conservation Corps. Through this program, students can gain experience in the Natural Resource Systems career focus area while gaining valuable work experience. Additionally, the program allows students to work outside with their hands completing tasks that will have a large impact on the future of our natural resource systems.

APPENDICIES

Appendix 3 – Work in the Wild

REFERENCES

"Making a Difference at the Kodiak Refuge": <https://www.nps.gov/media/vid-eo/view.htm?id=958562E3-1DD8-B71B-0B29585BD587AE6F>

U.S. Youth Conservation Corps: <https://www.nps.gov/subjects/youthprograms/ycc.htm>

U.S. Youth Conservation Corps Blog: <https://www.fs.fed.us/blogs/youth-conservation-corps-programs-make-difference>

STANDARDS ALIGNMENT

• **AFNR PERFORMANCE ELEMENT:** CS.02, CS.05 • **FFA PRECEPT:** FFA.PL-A.Action, FFA.PL-E.Awareness, FFA.PG-J.Mental Growth, FFA.CS-N.Decision Making, FFA.PL-C.Vision, FFA.PL-F.Continuous Improvement
• **COMMON CAREER TECHNICAL CORE:** AG2, AG5 • **COMMON CORE - WRITING:** CCSS.W.9-10.2 • **COMMON CORE - SPEAKING AND LISTENING:** CCSS.SL.9-10.2 • **AFNR CAREER READY PRACTICES:** CRP02, CRP04
• **P21 SKILLS:** Communication, Environmental Literacy, Global Awareness, Think Creatively

WORK IN THE *Wild*

FFA members can learn valuable skills and prepare for future careers while helping improve U.S. forestland.

Thanks to the U.S. Youth Conservation Corps (YCC), FFA members across the nation can see firsthand what a career in natural and cultural resources might look like.

YCC is a summer youth employment program that engages young people between the ages of 15 and 18 in meaningful work experiences in national parks, forests, wildlife refuges and fish hatcheries from coast to coast. Operated by the National Park Service, the USDA Forest Service, U.S. Fish and Wildlife Service and Bureau of Land Management, YCC offers work opportunities that generally span eight weeks. The USDA Forest Service also offers residential work opportunities for a shorter time frame.

Although work opportunities vary, many YCC program participants build trails, maintain fences, clean campgrounds, improve wildlife habitats, restore streams and preserve historic buildings. In addition, the YCC program requires participants to engage in service learning and career awareness activities one day per week.

As a result, YCC exposes teenagers to careers in natural and cultural resources such as conservation, forestry and hydrology, while giving them an opportunity to help conserve forestlands, eradicate invasive species and restore native species.

“We host about 1,500 young people on YCC projects every summer,” says Merlene Mazyck, acting deputy director of the USDA Forest Service, Office of Recreation, Heritage and Volunteer Resources. “The work they do is critical for our ability to improve trails and public access to forestlands.”

SERVICE SUPPORT

Due to the success of YCC and similar initiatives such as the 21st Century Conservation Service Corps (21CSC), which offers work opportunities on public lands for young people and adults ages 15 to 30 and veterans up to age 35, the USDA Forest Service invested \$13 million in 2017, which was matched with \$7 million from partners to fund 4,000 work opportunities. Approximately 20 percent of opportunities funded were YCC jobs, and about 25 percent of all projects funded supported high-priority trail maintenance and improvements.

“Along with doing meaningful work, many YCC and 21CSC program participants who haven’t spent much time outdoors get to experience the diverse recreation activities available in a forest,” Mazyck says. “While they work, they learn, and some of them will undoubtedly become the next generation of natural and cultural resource professionals or develop a lifelong stewardship ethic.”

— By Jessica Walker Boehm

To apply for or to learn more about YCC work opportunities,

visit fs.fed.us/working-with-us/opportunities-for-young-people and visit 21csc.org to find out how you can be a part of 21CSC. Additionally, you can discover more careers in the natural resources industry and related supervised agricultural experience ideas at AgExplorer.FFA.org.

NAME: _____

Appendix 3 – “Work in the Wild”

Created: Summer 2018 by the National FFA Organization

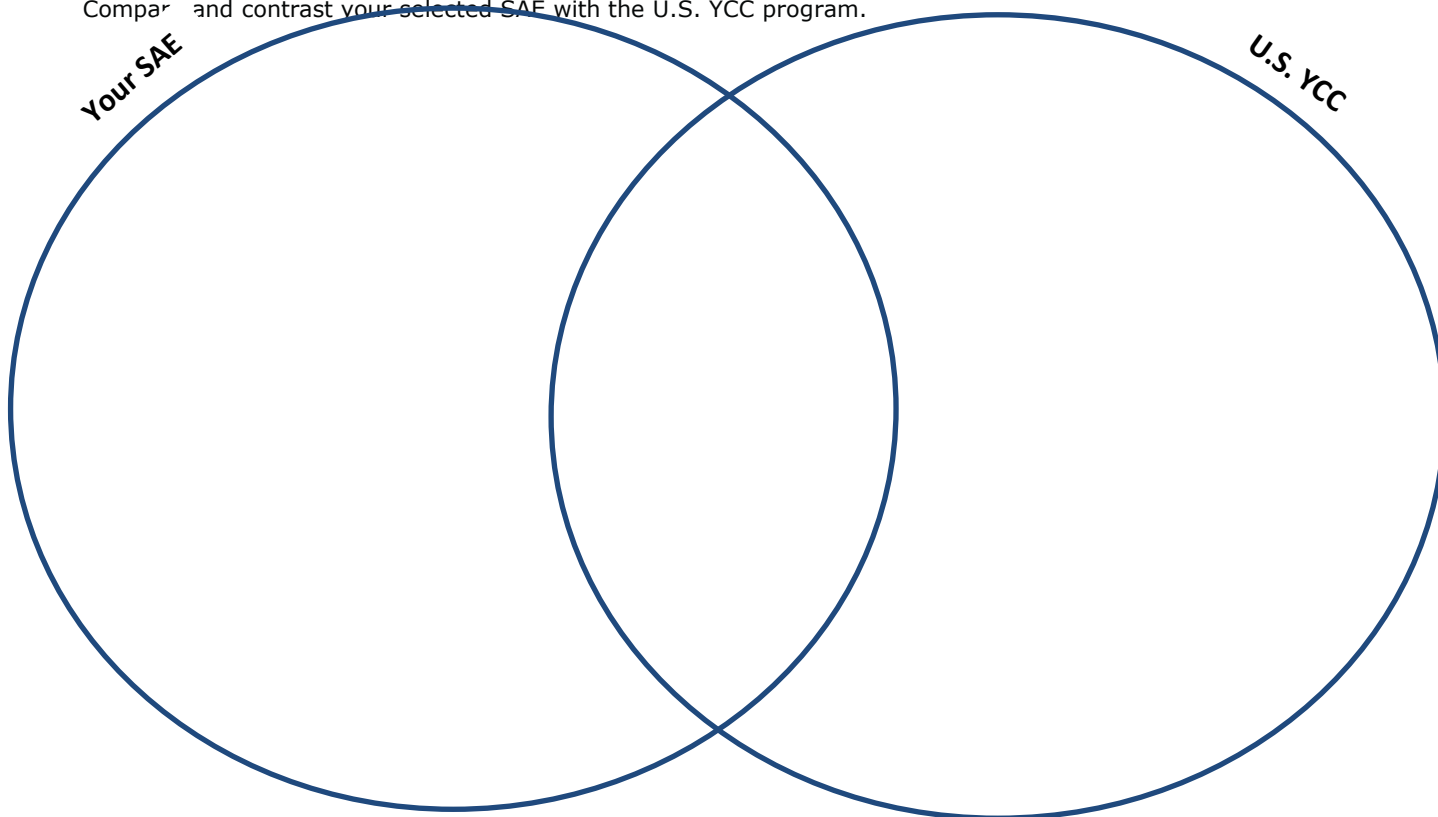
DIRECTIONS:

Read the article “Work in the Wild” found in the summer 2018 *FFA New Horizons* magazine and complete the following activities.

1. What is the U.S. Youth Conservation Core (YCC)?

2. Who is eligible to participate in the U.S. YCC?

3. Who runs and is in charge of the U.S. YCC? _____
4. What are the benefits to being involved in the U.S. YCC program?
 - a. _____
 - b. _____
 - c. _____
5. Select an SAE of interest to you by utilizing the SAE idea cards (you may use your own SAE if you have one). Compare and contrast your selected SAE with the U.S. YCC program.



NAME: _____

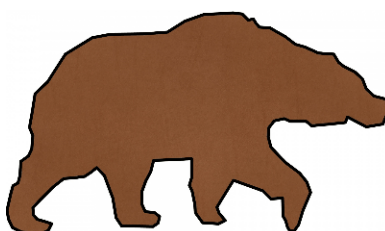
Aligned to the following standards:
CS.02; CS.05; FFA.PL-A; FFA.PL-C; FFA.PL-E; FFA.PL-F; FFA.PG-J; FFA.CS-N; AG2;
AG5; AGC09.02; CCSS.W.9-10.2; CCSS.SL.9-10.2; CRP.02; CRP.04

DIRECTIONS:

Watch the video "Making a Difference at the Kodiak Refuge" (<https://www.nps.gov/media/video/view.htm?id=958562E3-1DD8-B71B-0B29585BD587AE6F>) and complete the next question.

What types of experiences did the students in the U.S. YCC have?

1. _____
2. _____
3. _____



DIRECTIONS:

Go to the following website and read the blog created by students in the U.S. YCC program:
<https://www.fs.fed.us/blogs/youth-conservation-corps-programs-make-difference>.

On a separate sheet of paper, create a blog to educate and excite others about an FFA activity or event that your chapter hosts.

Include the following in your blog:

1. A creative/catchy title.
2. Authors.
3. Date of creation.
4. Descriptive information about the event.
5. Pictures.
6. Color.

Criteria	Rating Excellent (10 – 7 points)	Rating Good (6 – 4 points)	Needs Improvement (3 – 0 points)	Point Total (40 points)
Creative/Catchy Title, Date, Author(s)	Thought, time and creativity were used to create a title that would thoroughly catch a reader. Date and authors included.	Title included but very generic. No date or authors, or only one included.	Little to no thought was included in the title AND/OR no date, title, authors included.	
Color & Pictures	Student adds color to the entire blog where necessary and used captivating images.	Some color was utilized. Images did not match or enhance the blog.	No color or pictures included.	
Blog writing	Well written, conveys the message accurately.	Did not thoroughly describe the program. Some spelling/grammar issues.	Little description, many spelling/grammar issues.	
Overall impact of the blog	Grabs attention and meets the needs of the blog.	Somewhat impactful.	Very little impact/effort provided.	
Total				



NEW HORIZONS

SUMMER 2018 TEACHING GUIDE



ARTICLE SUMMARY

Dedication to Education

What is a foundation? Check this article out to learn about the CHS Foundation and its long-standing partnership with the National FFA Organization. Learn about the different programs its donations help to support, such as career development events, proficiency awards and teacher development.

BELL RINGER:

- 1) What groups in the community (or state) help raise funds or receive donations to help the community?
 - a. How are those funds used for the community?

DISCUSSION QUESTIONS

1. What is a foundation?
2. How do you think foundations help organizations and individuals?
3. What foundations exist in our community and what role do they play?

ACTIVITY

Students should first complete the bell ringer activity listed above on their papers. Once all students have written down an answer, have them discuss and explain their answers with their neighbors. After five minutes, call on a few groups to share.

Students should read the article and then complete the "Dedication to Education" worksheet (Appendix 4). Internet access is required for this activity. The worksheet has two parts:

1. Students will learn about the CHS Foundation.
2. Students will research other foundations and will have to choose a foundation to donate "money" to (Students will need to reference "Appendix 5 – 2017 CHS Giving Report to complete this activity.)

FFA TIP

Invite a local business professional from the community who works with charities and foundations to speak to the FFA chapter during a meeting. The professional can explain in further detail the work of foundations and how it can relate to agriculture and FFA.

SAE TIP

Have your students research the agricultural education profession in different states.

- What are the requirements to become an agricultural education teacher in various states?
- Locate and compare the agricultural education teacher preparation programs at the universities in your region or nationwide.
- What are the employment trends/demands for agricultural education graduates? Where are the job openings?

STANDARDS ALIGNMENT

• **FFA PRECEPT:** FFA.PL-C.Vision, FFA.PL-D.Character, FFA.PL-F.Continuous Improvement, FFA.PG-J.Mental Growth, FFA.CS-M.Communication, FFA.CS-N.Decision Making, FFA.CS-O.Flexibility/Adaptability • **COMMON CORE - READING: INFORMATIONAL TEXT:** CCSS.ELA-LITERACY.RI.9-10.4 • **COMMON CORE - WRITING:** CCSS.ELA-LITERACY.W.9-10.2, CCSS.ELA-LITERACY.W.9-10.4 • **COMMON CORE - SPEAKING AND LISTENING:** CCSS.ELA-LITERACY.SL.9-10.4 • **AFNR CAREER READY PRACTICES:** CRP.04 • **P21 SKILLS:** Communication, Critical Thinking and Problem Solving, Initiative and Self-direction, Leadership and Responsibility

VOCABULARY

Commitment
Cooperative
Foundation
Innovative
Recruiting

EXIT TICKET

1. What are three things you learned from this lesson?
2. Pretend your friend was absent from class today and you have been asked to explain the lesson. What would you tell him or her about the lesson?

CAREER FOCUS AREA

Agribusiness Systems

RELATABLE ARTICLES

Redefining Community Foundations
<https://ssir.org/articles/entry/redefining-community-foundations>

RELATABLE WEBSITES

CHS Foundation – Stewardship
<http://www.chsinc.com/stewardship>
<http://www.chsinc.com/stewardship/developing-ag-leaders>
Foundation Basics
<https://www.cof.org/content/foundation-basics>

RESOURCE HIGHLIGHTS

AgExplorer
AgExplorer.FFA.org

Students can utilize AgExplorer to see which careers of interest work with community organizations and foundations.

National FFA Foundation
FFA.org/support/foundation

APPENDICIES

Appendix 4 – Dedication to Education
Appendix 5 – 2017 CHS Giving Report

REFERENCES

<https://www.nptrust.org/philanthropic-resources/25-largest-foundations-in-the-us-by-total-assets>
<http://data.foundationcenter.org/#/foundations/all/nationwide/top:giving/list/2014>

DEDICATION TO EDUCATION

THE CHS FOUNDATION CONTINUES ITS LONGTIME SUPPORT OF FFA WITH A GENEROUS GRANT.

Continuing its more than 40 years of support of the National FFA Organization, the CHS Foundation recently announced a three-year, \$3.8 million commitment to the organization. The CHS Foundation is the charitable giving arm of CHS Inc., the nation's leading farmer-owned cooperative, which provides products and services such as grain marketing, fertilizer and fuel to farmers.

Since the beginning of its support, the CHS Foundation has remained committed to investing in programs that develop a new generation of agriculture leaders.

"One of the best programs that

does just that is FFA," says Nanci Lilja, CHS Foundation president. "FFA members are innovative, creative young people who are passionate about agriculture, and that's exactly what the agriculture industry needs to succeed. The CHS Foundation is really proud of our long-standing partnership with FFA."

The generous \$3.8 million grant will support career and leadership development events, proficiencies, the New Century Farmer program and teacher development through the National Teach Ag Campaign.

"To see the impact National Teach Ag has had on recruiting and retaining ag teachers and

inspiring students to pursue a career in teaching agriculture is truly inspiring," Lilja says.

"The part of the grant we are most excited about is working with the National Association of Agricultural Educators to develop an engaging platform to deliver the cooperative business model to students and teachers," Lilja adds. The "My Local Cooperative" program will educate the next generation about the benefits and opportunities of agriculture cooperatives.

"Being part of a cooperative is pretty cool, and we're excited to share that message," Lilja says.

— By Jessica Mozo



EVERY GENERATION NEEDS ITS LEADERS.

As a farmer-owned cooperative, we help lead the agricultural industry by promoting the most innovative, responsible farming practices available today. And we want to make sure that the next generation of leaders is well trained for tomorrow. That's why we proudly support youth leadership programs like FFA. It's also why we've invested in scholarships and countless land-grant university initiatives across the country. At CHS, we know every generation needs its leaders. And every potential leader needs a little help becoming one.

Visit chsinc.com/stewardship to learn more about our ongoing commitment to leadership.

NAME: _____

Appendix 4 – Dedication to Education

Created: Summer 2018 by the National FFA Organization

DIRECTIONS:

Read the article “Dedication to Education” in the summer 2018 issue of *FFA New Horizons* and answer the questions below.



Part 1

To learn about the CHS Foundation and CHS Stewardship visit the CHS Stewardship, Developing Ag Leaders website (<http://www.chsinc.com/stewardship/developing-ag-leaders>) to begin your research about the CHS Foundation. Additionally, use the “CHS 2017 Giving Report” for more information (Appendix 5). (*CHS Stewardship is the broader umbrella that incorporates the CHS Foundation and Corporate Citizenship.*)



1) What is the focus of the CHS Foundation?

2) How does the CHS Foundation help support rural youth leadership?



3) How is the CHS Foundation funded?

4) What is the goal of the CHS Foundation by 2020?

Aligned to the following standards:

FFA.PL-C.; FFA.PL-D.; FFA.PL-F.; FFA.PG-J.; FFA.CS-M.; FFA.CS-N.; FFA.CS-O.; CCSS.RI.9-10.4; CCSS.W.9-10.2; CCSS.W.9-10.4; CCSS.SL.9-10.4; CRP.04

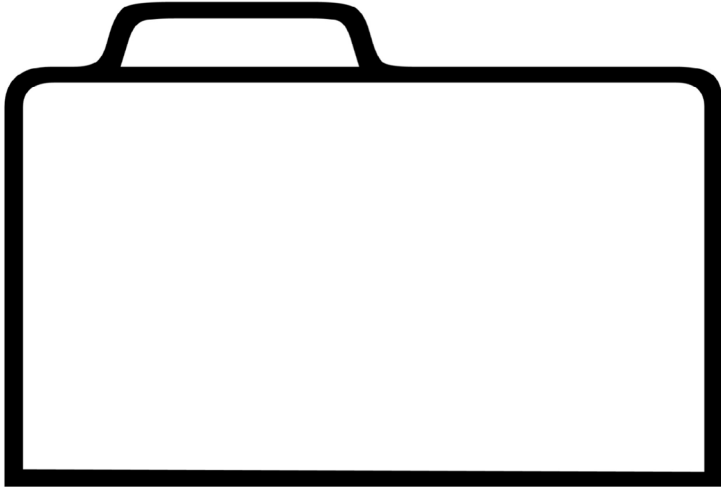
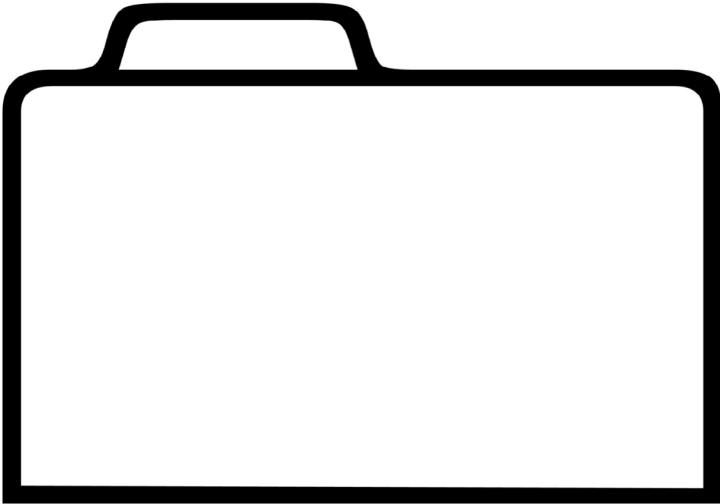
NAME: _____

Part 2

You have inherited a large amount of money (\$5,000) with instructions to donate to a foundation. In order to make a decision, you need to do some research and planning.

Research a variety of foundations in your area. (Check out these sites to start your research):
<https://www.nptrust.org/philanthropic-resources/25-largest-foundations-in-the-us-by-total-assets>
<http://data.foundationcenter.org/#/foundations/all/nationwide/top:giving/list/2014>

1. Identify 2 foundations of interest and list their websites.



2. Identify 2 pros and 2 cons of each foundation you identified.

Foundation:

Pros:

Cons:

Foundation:

Pros:

Cons:

NAME: _____

3. Out of those 2, which foundation would you choose to donate your money to and why?

4. As you read in the article, the CHS Foundation had specific purposes or uses for the money they donated to the FFA. What would you want your money to be used for in the foundation that you chose? (Identify 3 purposes/uses of the money).



Aligned to the following standards:
FFA.PL-C.; FFA.PL-D.; FFA.PL-F.; FFA.PG-J.; FFA.CS-M.; FFA.CS-N.; FFA.CS-O.; CCSS.RI.9-10.4;
CCSS.W.9-10.2; CCSS.W.9-10.4; CCSS.SL.9-10.4; CRP.04



2017 CHS GIVING REPORT





The CHS Foundation, funded by charitable gifts from CHS Inc., is driven by our mission to develop ag leaders for life.

In 2017, the CHS Foundation laid the framework to bring new rigor and innovation to cooperative system education programs as part of its efforts to engage a new generation of leaders. We're also cultivating strong university partnerships to support students studying agriculture with program support, mini-grants and scholarships. And, with our partners, we're growing high-impact youth leadership programs to engage students and accelerating ag educator development to ensure new generations are well prepared to make meaningful contributions within the agriculture industry. Learn more at chsfoundation.org.



The AgCultures program, a transformative agricultural education partnership with the University of Minnesota, explores the many facets of agriculture and ag-related careers. Teachers and students can follow along with the team and use free standards-based curriculum in their classrooms. The 2017 AgCultures expeditions focus on the Mississippi River and its role in grain movement, and agriculture in South America.

265
SCHOLARSHIPS
AWARDED TO YOUTH
INTERESTED IN
AG CAREERS



**NEARLY
70**
AGRICULTURE COLLEGE CLUBS
SUPPORTED IN PROFESSIONAL
DEVELOPMENT ACTIVITIES



\$3.8M
AWARDED TO NATIONAL FFA
AND NATIONAL TEACH AG
TO SUPPORT RURAL YOUTH
LEADERSHIP DEVELOPMENT
AND AG EDUCATOR
RECRUITMENT AND RETENTION

17,000
STUDENTS LEARNED
ABOUT THE COOPERATIVE
BUSINESS MODEL THROUGH
**COOPERATIVE
EDUCATION
GRANTS**



The CHS Foundation unveiled a new \$3.8 million grant to support National FFA and the National Teach Ag Campaign. The three-year commitment will help National FFA support young people as they become more familiar with the food and agriculture industry and prepare teachers to successfully teach ag concepts.

By 2020, the CHS Foundation will invest \$8.9 million to ignite **innovation in cooperative education** and drive **excellence in agriculture education**. Our work to cultivate **strong university partnerships** and focus on high-impact programs will help accelerate **career potential** to launch a new generation of leaders for lifelong success in agriculture.

CHS CORPORATE CITIZENSHIP

Through our Corporate Citizenship giving efforts, CHS focuses on strengthening hometown communities through local matching grants, safety training, employee giving and industry partnerships. CHS Corporate Citizenship is committed to projects that fuel positive change in agriculture and empower CHS owners and employees to ensure the communities where our families live and work thrive. Read on to learn more and visit our website at chsinc.com/stewardship.

20 FARM FAMILIES
HELPED AFTER INJURY,
ILLNESS OR DISASTER THROUGH
FARM RESCUE



More than 400 students attended Progressive Agriculture Safety Days at five CHS Country Operations locations.

\$190K

TO SUPPORT 62 RURAL
COMMUNITY PROJECTS IN
16 STATES THROUGH OUR
SEEDS FOR STEWARDSHIP
MATCHING GRANTS
PROGRAM

\$1.5M

RAISED FOR
UNITED WAY
PROGRAMS



More than 8,000 CHS employees each received 16 hours of paid time off to volunteer through the CHS Days of Service program.

By 2020, CHS Inc. will invest \$5.5 million to fuel positive impact in agriculture and hometown communities. We lead meaningful advancements in **ag safety excellence**, leverage the collective power of the cooperative system through **local co-op matching grants**, and activate our shared values with employees through **CHS giving and volunteer programs**.



Through the Seeds for Stewardship program, CHS teamed up with 62 cooperatives to support rural community projects. In the program, 20 grants supported local ag safety efforts, including grain bin extrication training and equipment for rural fire departments.



NEW HORIZONS

SUMMER 2018 TEACHING GUIDE



ARTICLE SUMMARY

Cooking Up Change in Our Communities

Learn how FFA members benefited from participating in The Domino's Transformation Experience. Discover how the members learned about aspects of the business industry while promoting healthy eating at home. FFA members worked alongside Domino's executives to learn through this unique program.

BELL RINGER:

What are two qualities of a successful business? Discuss with a partner.

DISCUSSION QUESTIONS

1. How can you apply qualities of a successful business in your schoolwork and in your future career?
2. What are opportunities in your community where you can learn more about the business industry?
3. If you were awarded a grant, how would you use the monies to better the community?

ACTIVITY

Students should first complete the bell ringer activity as listed above on their papers. Once all students are finished, have them discuss and explain their answers with their neighbors. After five minutes, call on groups to share.

Next, have students read the article "Cooking Up Change in Our Communities". Students should complete "3-2-1 What Does My Community Need?" (Appendix 6) first. Internet access is not required for this activity. Students can work with a partner. This worksheet will help students identify a need in their community (this information will be needed for the additional worksheets).

Students should then complete the "Sample Grant Application" (Appendix 7). Internet access is not required for this activity. Students should consider the community need identified in "3-2-1 What Does My Community Need?" (Appendix 6) while completing this application. After completing this worksheet, have a class discussion about their answers. Next, pass out the "High-Quality Grant Application Example" (Appendix 8) and have students read to see an example of a high-quality application.

Lastly, students should complete the "Cooking Up Change in Our Communities" worksheet (Appendix 9). Internet access is required for this activity. Students will create a business and look at the steps for starting a business. This worksheet involves developing a mission statement, identifying short- and long-term goals, and determining target market and price.

FFA TIP

Invite a local entrepreneur to your FFA meeting to talk about their business. Have students ask questions to learn more about the business.

SAE TIP

Is there land available on your school grounds or in the local community where students could plant and create a vegetable or flower garden? Garden plot SAE possibilities could include:

- Forming a student co-op to grow vegetables or flowers to sell or donate to the school, at a farmers market, in the school greenhouse, etc.
- Student(s) take a management role and handle the sale/rent of plots.
- Students with agricultural education SAEs could use the garden as a teaching lab for elementary or community classes.

STANDARDS ALIGNMENT

• **FFA PRECEPT:** FFA.PL-C.Vision, FFA.PL-D.Character, FFA.PL-F.Continuous Improvement, FFA.PG-J.Mental Growth, FFA.CS-M.Communication, FFA.CS-N.Decision Making, FFA.CS-O.Flexibility/Adaptability • **COMMON CORE - READING: INFORMATIONAL TEXT:** CCSS.ELA-LITERACY.RI.9-10.4 • **COMMON CORE - WRITING:** CCSS.ELA-LITERACY.W.9-10.2, CCSS.ELA-LITERACY.W.9-10.4 • **COMMON CORE - SPEAKING AND LISTENING:** CCSS.ELA-LITERACY.SL.9-10.4 • **AFNR CAREER READY PRACTICES:** CRP04 • **P21 SKILLS:** Communication, Critical Thinking and Problem Solving, Initiative and Self-direction, Leadership and Responsibility

VOCABULARY

Entrepreneurs
Implement
Collaborate
Curriculum
Generate
Food desert

EXIT TICKET

What are two characteristics of a high-quality grant application? How could you apply these characteristics in your assignments at school?

CAREER FOCUS AREA

Agribusiness Systems

RELATABLE ARTICLE

Why We Give: From Farm to Pizza
<https://issuu.com/nationalffaorganization/docs/bjbfjan2018pr> (page 2)

RELATABLE WEBSITE

Domino's 2017 Charitable Giving

https://biz.dominos.com/documents/1697006/6681059/2017_Dominos_Charitable-Giving-Report.pdf/17112055

RESOURCE HIGHLIGHTS

Visit the Living to Serve page on FFA.org (FFA.org/livingtoserve/grants) to learn more about grant opportunities available for your chapter. One available grant is the Day of Service Mini-Grants (due the last day of each month).

APPENDICIES

Appendix 6 – 3-2-1 What Does My Community Need?

Appendix 7 – Sample Template Grant Application

Appendix 8 – High-Quality Grant Application Example

Appendix 9 – Cooking Up Change in Our Communities

REFERENCES

FFA.org/SiteCollectionDocuments/cde_marketingplan.pdf

<https://www.agmrc.org/business-development/starting-a-business/>

PREMIER leadership

Cooking Up Change IN OUR COMMUNITIES

Participating in The Domino's Transformation Experience helped three FFA members promote healthy eating at home.



In October, five-star FFA sponsor Domino's invited 10 students to its Ann Arbor, Mich., headquarters to participate in The Domino's Transformation Experience, a partnership program with AdVenture Capital designed to nurture the next generation of social entrepreneurs.

Domino's executives helped students develop business plans and pitch their ideas. At the end of the three-day event, students were given \$2,000 grants to implement their programs.

Three FFA members who participated in The Domino's Transformation Experience share the projects they're cooking up in their communities.

EASTON WAGONER

Easton Wagoner spends one afternoon a month leading agriculture classes for elementary school students.

"A lot of students don't know where their food comes from," he admits.

Wagoner, 17, developed the curriculum as part of his Living to Serve project. The Domino's Transformation Experience inspired the student from East Wilkes High School in Ronda, N.C., to think bigger.

"It was great to be around students who had great ideas and huge goals," he recalls.

With the grant funds, Wagoner

plans to build a school garden in the hopes that letting kids grow their own food will generate excitement about healthy eating.

The experience has also helped Wagoner envision his future.

"I plan to teach [agricultural education] as a career, and this is giving me a lot of experience," he says.

KALEB KRZYSZTON

Waumandee, Wis., might be a food desert, but Kaleb Krzyszton believes local farmers produce enough healthy foods to feed the community.

Krzyszton, 17, planned a Stone Soup event to kick off the 2018 FFA Week at Cochrane-Fountain City High School. He reached out to local farms to source ingredients that will be used to make soups for the event. Educational programming will highlight the importance of eating locally.

"My goal is to show people how we can build connections with our neighbors and stimulate the local economy," says Krzyszton.

During The Domino's Transformation Experience, Krzyszton learned about using social media to generate buzz.

"We've already posted to Facebook and Snapchat several times, and people are getting really excited about the event," he says.

ELISABETH WATKINS

When Central Catholic High School opened a new health and fitness center on its Modesto, Calif., campus, Elisabeth Watkins believed something was missing: a school garden.

"I thought that growing fresh foods could improve healthy eating at school," says Watkins.

During The Domino's Transformation Experience, Watkins, 16, learned how to pitch her idea and put together the team to make it happen.

Watkins collaborated with the school chef to choose a location for the garden and to develop a plant list. This spring, she'll help build the garden and plant vegetables for healthy cafeteria meals.

"Sometimes the kids here just eat french fries for lunch," Watkins explains. "The garden will give them healthier options. Even if they still choose french fries, they'll have a better understanding of where their food comes from."

— By Jodi Helmer

Visit FFA.org/LivingToServe for details about the Living to Serve platform, then conduct similar projects in your community.

NAME: _____

Appendix 6-3-2-1 What Does My Community Need?

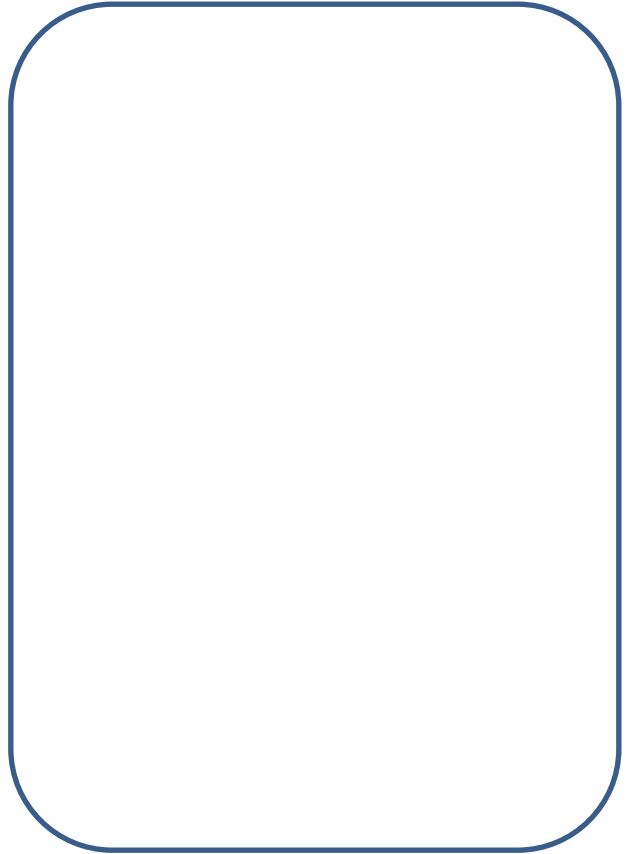
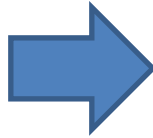
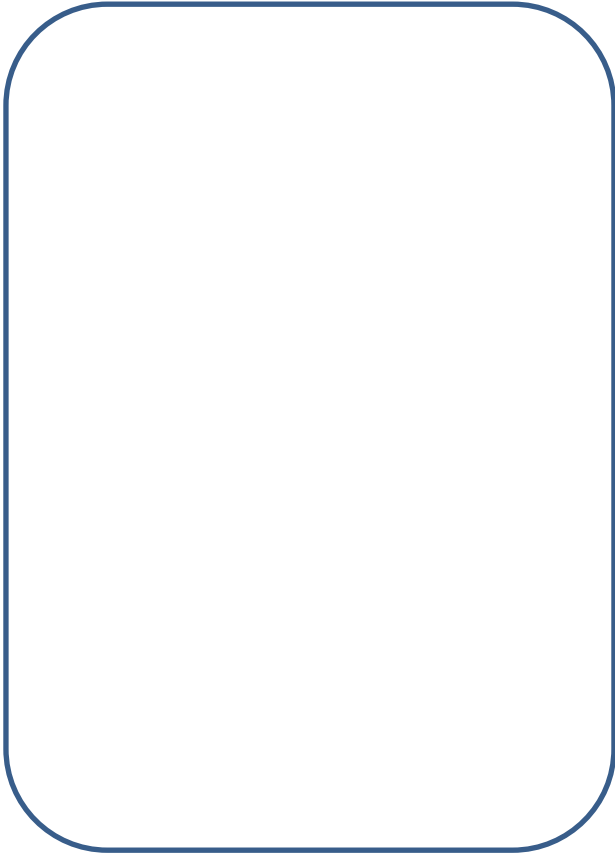
Created: Summer 2018 by the National FFA Organization

DIRECTIONS:

Think through the following questions and answer based on what you think are the needs of your community.

1. 3 things I think need improvement in my community:

2. 2 things I think would make my community better:



3. 1 action I am willing to take to improve my community:



Aligned to the following standards:
FFA.PL-C.; FFA.PL-D.; FFA.PL-F.; FFA.PG-J.; FFA.CS-M.; FFA.CS-N.; FFA.CS.O.; CCSS.ELA-W.9-10.2; CCSS.ELA.W.9-10.4; CCSS.ELA.RI.9-10.4; CCSS.ELA.SL.9-10.4; CRP.04.

SAMPLE: Day of Service Mini-Grant Application

FFA Chapter Contact Information

Chapter Type

Middle School, High School or Alumni

Chapter Name

Chapter Number

Chapter State

Advisor First Name

Advisor Last Name

Advisor Email

Advisor Phone Number

School Name

School Mailing Address

Mailing Address

City

Zip

Principal's First Name

Principal's Last Name

Principal's Email address

Total # of FFA members in chapter

Community Type

- ☐ Rural
☐ Urban
☐ Suburban



What language are you completing this application in?

- ☐ English
☐ Spanish

Short Overview of Service Event

Provide a short overview of your service event. It should include the identified community need and how it will be addressed. (2 to 4 sentences).

Example: Sample FFA is partnering with the local police department to raise awareness of teen safe driving. The FFA members will hold a Safe Driving Awareness Day that will include seat belt checks and other activities to promote safe driving.

Event Title:

Event Overview:

NARRATIVES

INVESTIGATE: Provide information on the community need your chapter will address with the service event.

How was the community need identified?

Why was the need chosen? How is the issue affecting the community? Include 1 to 3 statistics on the need.

What role did members play in choosing the need?

Focus Area: Community needs addressed by Living to Serve grants are categorized into four (4) focus areas. Choose the focus area to which your event's need most closely aligns.

Selecting a focus area will pre-populate information in the measurable outcomes section. If you do not see an outcome related to your project, you may want to try a different focus area before choosing "other."

Community Safety	Addresses concerns regarding the safety of community members and the preparation, response and recovery efforts that relate to emergency preparedness and natural disasters.
Hunger, Health and Nutrition	Addresses unmet food insecurity needs, increasing physical activity and improving healthy habits to promote physical and mental well-being of the community.
Environmental Responsibility	Addresses issues regarding air and water quality, energy and water efficiency, at-risk ecosystems and conservation to protect and sustain the natural systems upon which all life depends.
Community Engagement	Addresses matters related to heritage and traditions, connections between community members and civic responsibility throughout the community.

Choose Event's Focus Area:

- ☐ Community Safety
- ☐ Hunger, Health and Nutrition
- ☐ Environmental Responsibility
- ☐ Community Engagement

PLAN: Provide information on your service event.

Please Note – Eligible service events will occur no earlier than one week after the set award date for the application cycle. Applications with event dates before the established timeline will immediately be considered ineligible. Example – An application submitted in October must have an event date that occurs after November 22. To see a full calendar of award notification dates, go to

[FFA.org/SiteCollectionDocuments/livingtoserve_grants_timeline.pdf](https://ffa.org/SiteCollectionDocuments/livingtoserve_grants_timeline.pdf).

Main Date of Service Event:

Additional Service Event Date (Optional):

Additional Service Event Date (Optional):

Location(s) of Service Event:

Estimated number of FFA/collegiate members involved:

Estimated number of alumni members involved:

Estimated number of non-FFA members (other youth and adult volunteers) involved:

If awarded, may a sponsor contact you to serve as a community partner on the project?

☐ Yes

☐ No

Service Event Description

Provide an overarching description of the service event. Be sure to include the overall objective, description of activities and potential community partners with their roles.

SERVE: Provide information on the roles of FFA members.

Activities of Members: What activities will members be directly involved with?

Evaluate: Provide information on the service event's measurable outcomes.

Chapters are required to have at least one (1) measurable outcome for the Day of Service event. Work through the steps below to build your measurable outcome(s). Information in this section must match information provided in other narratives.

This outcome must measure the event's impact on the greater community. Space for additional (optional) outcomes has been provided.

Step 1: Select a measurable outcome from the drop-down menu that aligns with your event. If none of the outcomes are appropriate, you may have chosen the wrong focus area in the Investigate section, which pre-populates the outcome options. If you have the correct focus area and still no options match, then select "Other" and write your own.

Step 2: Provide a numerical value as a baseline goal for the outcome.

Measurable Outcome(s)

	Outcome Choices	Numerical value as baseline goal
Event Outcome 1	See below for measurable outcome options that pre-populate based on the FOCUS AREA selected.	

Event Outcome 2
(optional)

Event Outcome 3
(optional)

Community Safety	Hunger, Health and Nutrition
# of playgrounds or play spaces improved or built:	# of individuals engaged in increased physical activity:
# of emergency readiness kits created and distributed:	# of fitness events organized (Example: steps challenge or 5k):
# of blood donations collected:	# of community or school gardens created or planted:
# of roads or sidewalks improved:	# of health fairs organized:
# of first aid kits prepared or distributed:	Pounds of fruits/vegetables produced, collected or rescued and donated:
# of emergency housing or shelters improved:	Pounds of meat/fish produced, collected or rescued and donated:
# of animals cared for at animal shelter, etc.:	# of eggs donated:
# of emergency family and/or animal plans created:	Pounds of food waste collected:
# of emergency farm safety plans created:	# of plants and/or container gardens distributed:
# of people receiving emergency response training (Example: CPR):	# of meals prepared at kitchen or shelter:
Amount of money raised:	# of backpacks packed and distributed for meal program:
Other:	Amount of money raised:
	Other:
Environmental Responsibility	Community Engagement
# of trees, shrubs or other plants planted and/or maintained:	# of letter/cards written or care packages donated to active duty troops:
Pounds of trash and debris removed:	# of actions supporting military families or veterans:
Square feet/acres of harmful invasive vegetation removed:	# of buildings/sites renovated, cleaned up or otherwise improved:
# of parks cleaned or improved, preserved, protected or created:	# of murals painted or community artwork created:
# of habitats cleaned or improved, preserved, protected or created:	# of adults and youth mentored, tutored or read to:
# of wilderness areas cleaned or improved, preserved, protected or created:	# of adults and youth volunteer mentors, tutors, or readers recruited:
# of watersheds, rivers, lakes or other waterways cleaned or improved:	# of books or school supplies collected and donated:
Pounds of materials recycled:	# of anti-bullying initiatives organized:
Pounds of materials composted:	# of job skills trainings (technical, vocational or tertiary) organized:
Pounds of food waste collected:	# of financial literacy classes organized for adults and/or youth:
# of rain gardens constructed:	# of animals cared for at animal shelters, etc.:
# of green rooftops constructed:	# of cultural or natural heritage sites protected, improved or repaired:
# of vegetated buffers constructed:	# of citizens registered to vote or informed about elections:
# of energy audits conducted:	# of living histories documented:
# of buildings weatherized or made more energy-efficient:	Amount of money raised:
# of sites monitored for health of land, water, weather or plant/animal life:	Other:
Acres of land and soil restored from desertification, drought and floods:	
# of endangered plants, animals, or fish protected:	
# of beehives created or maintained:	

# of fish or animals released into wild:	
# of homes participating in a recycling program:	
Amount of money raised:	
Other:	

Budget

Only include items that will be purchased using grant funds from National FFA. Budget total should not exceed \$400.

Funding Guidelines:

Allowable Expenses*	Non-Allowable Expenses*
• Substitute teacher pay • Transportation to and from service sites • Copying and marketing costs • Educational outreach materials • Portable storage • Vegetation • Small equipment purchases • Other expendable materials	• Stipends or scholarships to students or the chapter • Indirect costs (cost of administering the grant funds) • Acquisition or construction of buildings or facilities • Travel to or from national convention or other state or national FFA trainings • Giveaways — Ex. T-shirts, food, small manipulatives, etc.

*Not an exhaustive list

[illegible]

Living to Serve Grants are only accepted online at <http://livingtoserve.FFA.org>.



Day of Service Mini-Grant Application

1

FFA Chapter Contact Information

Chapter Type	Middle School or High School
Chapter Name	Siegel
Chapter Number	TN0307
Chapter State	Tennessee
Advisor First Name	Carrie
Advisor Last Name	Lykins
Advisor Email	lykinsc@rcschools.net
Advisor Phone Number	423-741-1665
School Name	Siegel High School
School Mailing Address	3300 Siegel Rd
City	Murfreesboro
Zip	37129
Principal's First Name	Larry
Principal's Last Name	Creasy
Principal's Email address	CreasyL@rcschools.net
Total # of FFA members in chapter	53
Community Type	Suburban

How did you hear about the grant?

Other Advisor

Choose all that apply:

**What language are you
completing this application in?**

English

Short Overview of Service Event

Provide a short overview of your service event. It should include the community need identified and how it will be addressed. (2-4 sentences)

Example: *Sample FFA is partnering with the local police department to raise awareness of teen safe driving. The FFA members will hold a Safe Driving Awareness Day that will include seat belt checks and other activities to promote safe driving.*

Event Title:	Walter Hill Dam Clean Up
Event Overview:	Siegel FFA is participating in a community clean up at the historical hydroelectric station known as the Walter Hill Dam. Siegel FFA members will be improving wildlife habitat, improving water quality and helping the community have a clean and safe outside space.

NARRATIVES

INVESTIGATE: Provide information on the community need your chapter will address with the service event.

How was the community need identified?	Chapter members identified the need while visiting the Walter Hill Dam one weekend and realized the amount of litter left behind by visitors of the park. After seeing this litter chapter members became concerned about the effects of the litter on water quality, wildlife, plants, and aesthetics of the dam. They concerned them selves with this problem and were driven to start making improvements in the community.
Why was the need chosen? How is the issue affecting the community? Include 1-3 statistics on the need.	According to the Humane Society, over 250 million tons of trash discarded by Americans every year. The National Park Service states that waste such as plastic bags, plastic bottles, and aluminium cans take over 100 years to decompose. All of these pieces of litter where discarded around the Walter Hill Damn.
What role did FFA members play in choosing the need?	When the issue was identified it was discussed with members of the officer team as an idea for a service project for the coming year. This idea quickly got the teams attention as Walter Hill Dam is apart of the community and many community members attend this park every year. The chapter officer team then voted this activity into the chapters service projects for the upcoming year.

Focus Area: Community needs addressed by Living to Serve grants are categorized into four (4) focus areas. Choose the focus area that your event's need most closely aligns.

Selecting a focus area will pre-populate information in the measurable outcomes section. If you do not see an outcome related to your project, you may want to try a different focus area before choosing "other"

Community Safety	Addresses concerns regarding the safety of community members and the preparation, response and recovery efforts that relate to emergency preparedness and natural disasters.
Hunger, Health and Nutrition	Addresses unmet food insecurity needs, increasing physical activity and improving healthy habits to promote physical and mental well-being of the community.
Environmental Responsibility	Addresses issues regarding air and water quality, energy and water efficiency, at-risk ecosystems and conservation to protect and sustain the natural systems upon which all life depends.
Community Engagement	Addresses matters related to heritage and traditions, connections between community members and civic responsibility throughout the community.

Choose Event's Focus Area:

Environmental Responsibility

PLAN: Provide information on your service event.

Main Date of Service Event:	10/14/2017
Additional Service Event Date (Optional):	11/04/2017
Additional Service Event Date (Optional):	(No response)
Location(s) of Service Event:	Walter Hill Dam
Estimated number of FFA/Collegiate members involved:	20
Estimated number of non-FFA members (other youth and adult volunteers) involved:	10
If awarded, may a sponsor contact you to serve as a community partner on the project?	Yes

Service Event Description

Provide an overarching description of the service event. Be sure to include the overall objective, description of activities and potential community partners with their roles.

The day of service will begin with a brief education on how litter effects the ecosystem which will be facilitated by the Murfreesboro Stormwater Outreach Team. Then chapter members and guest will participate in littler pick up and removal. As litter is being picked up members will sort the litter into categories of recyclable and non recyclable. All recyclable to material will be taken to the Murfreesboro Recycling Center and all other litter will be taken to the Murfreesboro Landfill.

SERVE: Provide information on the roles of FFA members.

Activities of Members: What activities will members be directly invovled with?

Members and guest will be directly involved in the removal, sorting and disposal of litter from Walter Hill Dam.

4

Evaluate: Provide information on the service event's measurable outcomes.

Chapters are required to have at least one (1) measurable outcome for the Day of Service event.

Work through the steps below to build your Measurable Outcome. Information in this section must match information provided in other narratives. This outcome must measure the event's impact on the greater community. Space for additional (optional) outcomes has been provided.

Step 1: Select a measurable outcome from the drop down menu that aligns with your event. If none of the outcomes are appropriate, you may have chosen the wrong focus area in the Investigate section, which pre-populates the outcome options. If you have the correct focus area and still no options match, then select "Other" and write your own.

Step 2: Provide a numerical value as a baseline goal for the outcome.

Measurable Outcome(s)

	Outcome Choices	Numerical value as baseline goal
Event Outcome 1	Pounds of trash and debris removed:	15
Event Outcome 2 (optional)	Pounds of materials recycled:	8
Event Outcome 3 (optional)		

After completing the application portion be sure to navigate to the Budget Form to fill out and submit.



Day of Service Mini-Grant Budget Form

Budget Form

Only include items that will be purchased using grant funds from National FFA. Budget total should not exceed \$400.

Funding Guidelines:

Allowable Expenses*	Non-Allowable Expenses*
• Substitute teacher pay • Transportation to and from service sites • Copying and marketing costs • Educational outreach materials • Portable storage • Vegetation • Small equipment purchases • Other expendable materials	• Stipends or scholarships to students or the chapter • Indirect Costs (cost of administering the grant funds) • Acquisition or construction of buildings or facilities • Travel to or from national convention or other state or national FFA trainings • Giveaways- Ex. T-shirts, food, small manipulatives, etc.

*Not an exhaustive list

Item 1

	Item Name	Description of Use	Quantity	Unit Cost	Total	Category
	Husky 42 gal Contractor Bags (50 count)	Hold litter and recyclable goods	2	25.97	51.94	General Budget Item

Item 2

	Item Name	Description of Use	Quantity	Unit Cost	Total	Category
	Unger 32in Metal Grabber	Aid in picking up litter	18	16.72	300.96	General Budget Item

Item 3

	Item Name	Description of Use	Quantity	Unit Cost	Total	Category
	HDX Disposable Nitrile Gloves (100 count)	Protect skin	1	14.98	14.98	General Budget Item

Item 4

	Item Name	Description of Use	Quantity	Unit Cost	Total	Category
	Grease Monkey Nitrile Coated Large Gloves	Protect skin	32	0.98	31.36	General Budget Item

Item 5

	Item Name	Description of Use	Quantity	Unit Cost	Total	Category
					0	

Item 6

	Item Name	Description of Use	Quantity	Unit Cost	Total	Category
					0	

Item 7

	Item Name	Description of Use	Quantity	Unit Cost	Total	Category
					0	

Item 8

	Item Name	Description of Use	Quantity	Unit Cost	Total	Category
					0	

Item 9

	Item Name	Description of Use	Quantity	Unit Cost	Total	Category
					0	

Item 10

	Item Name	Description of Use	Quantity	Unit Cost	Total	Category
					0	

Add Additional Budget Items

No Responses Selected

Total Project Request

The total project request should be a whole dollar amount.

\$399.24

I agree that grant funds will be spent in accordance with the budget submitted to National FFA.

Additonal Budget Questions

No

Have you already or do you plan to seek additional funding for this project from other sources?

NAME: _____

Aligned to the following standards:
FFA.PL-C.; FFA.PL-D.; FFA.PL-F.; FFA.PG-J.; FFA.CS-M.; FFA.CS-N.; FFA.CS-O.; CCSS.RI.9-10.4;
CCSS.W.9-10.2; CCSS.W.9-10.4; CCSS.SL.9-10.4; CRP.04;

Appendix 9 – Cooking Up Change in Our Communities

Created: Summer 2018 by the National FFA Organization

DIRECTIONS:

Read the article “Cooking Up Change in Our Communities” in the summer 2018 issue of *FFA New Horizons* and answer the questions below.



Scenario: You and a partner are starting your own business. The first step in creating and starting your business is developing a business proposition. Components of your business proposition should include the following:

- Develop a mission statement.
- Have short- and long-term goals. They must be SMART goals (measurable, specific, attainable and have completion dates).
- Identify target market — specific market segments which achieve the goal.
- Cite sources of information.
- Product and price. (*Product needs to be agriculturally related; price should be comparative to a competitor's price.*)

(*This is from a portion of the National FFA Marketing Plan Career Development Event handbook, [FFA.org/SiteCollectionDocuments/cde_marketingplan.pdf](https://www.aggmrc.org/business-development/starting-a-business/), page 6.*) To see examples and to learn more, visit the Agricultural Marketing Resource Center, <https://www.aggmrc.org/business-development/starting-a-business/>.

Use the space below to complete your business proposition.

Mission Statement:

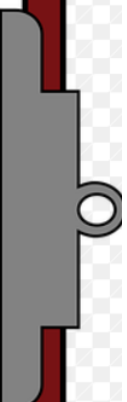
A large, solid blue rectangular area intended for the student to write their business proposition. It is positioned below the 'Mission Statement:' label and above a white rectangular area for the business proposition itself.

NAME: _____

Short-Term Goals (Identify 3, for a period of 1 to 3 years)

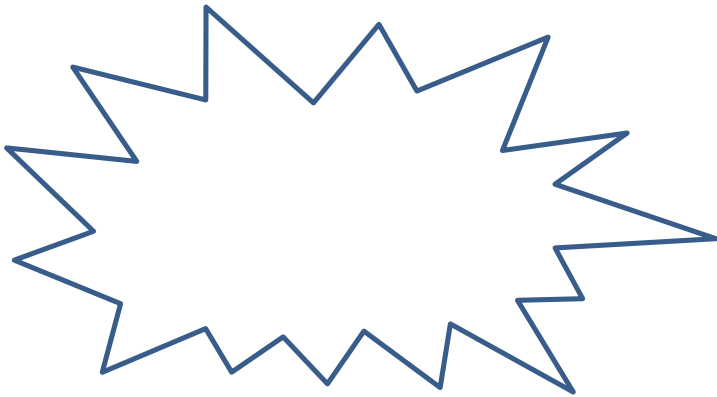


Long-Term Goals (Identify 3, for a period of 10 years)

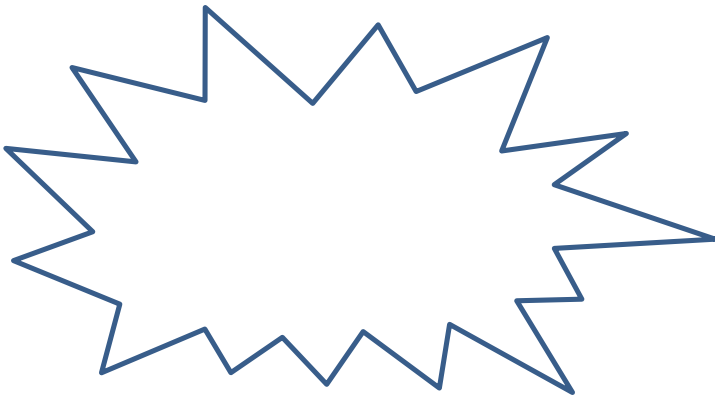


NAME: _____

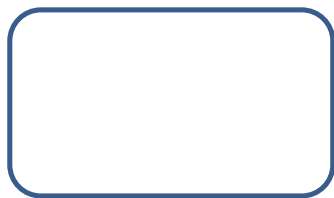
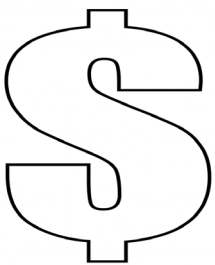
Target Market: *(Who would your potential consumers be?)*



Product:



Price:



Cite Sources of Information:



Let's think it out:

1. How can you apply these concepts in your future?

2. What was a challenge during this activity? How did you work through it?



NEW HORIZONS

SUMMER 2018 TEACHING GUIDE



ARTICLE SUMMARY

Smartphones Get Smarter

All about smartphones! The article "Smartphones Get Smarter" is about ever-evolving smartphone technology, such as Face ID and faster charging speeds, and the ability of the phone to help keep our lives organized through various functions and apps. Read the article to learn how Doug Adams, an Iowa farmer, uses his smartphone to keep his busy life organized. Additionally, learn about two exciting innovations in smartphone technology, augmented reality and image recognition via artificial intelligence.

BELL RINGER:

Think about your favorite apps. What are features about those apps that you like? Why?

DISCUSSION QUESTIONS

1. How do you think smartphone technology has evolved over the last 10 years?
2. How do you think smartphone technology can be applied in the agriculture industry?
3. What are advantages of using apps on your smartphone?

ACTIVITY

Students should first complete the bell ringer activity as listed above. Have students answer the bell ringer question on their papers. Once all students have written an answer, have them discuss and explain their answers with their neighbors. After five minutes, call on a few groups to share their answers. Capture the student's answers on the board.

Students should read the article and complete the "Smartphones Get Smarter" worksheet (Appendix 10). Internet access is required for this activity. The worksheet has two parts:

1. Students will research various apps that can help them in school.
2. Students will design/create an app to help people who want to start their own business or take over the family farm.

Have students complete the exit ticket on their papers. If there is time, have students share those experiences with the class.

FFA TIP

To help you as a teacher, send out reminders to your FFA members and students using the "Remind" app/website. This will help keep you organized and your members and students as well!
<https://www.remind.com/>

SAE TIP

Ask students to identify the ways they use smartphones in their current SAE or how they could use them in an SAE they are planning.

What issues do they have with their current or planned SAE that cheap access to smartphone technology could solve?

How could they use smartphones to start an SAE?

VOCABULARY

Supercomputer
Artificial intelligence
Virtual reality
Evolve
Accelerometer
Gyroscope
Magnetometer
Barometer
Augmented reality
Image recognition

EXIT TICKET

Based on the FFA New Horizons article and the process of developing your new app, what role/impact do you think applications in agriculture will continue to have in the future? Give a specific example.

CAREER FOCUS AREAS

Agribusiness Systems
Power, Structural and Technical Systems

RELATABLE ARTICLES

Technology: The Future of Agriculture
<https://www.nature.com/articles/544S21a>

How Digital Technology Is Changing Farming in Africa
<https://hbr.org/2017/05/how-digital-technology-is-changing-farming-in-africa>

RESOURCE HIGHLIGHTS

If your students like Journey 2050, they will love Farmers 2050! This free game is without ads or fees. It's a great educational game to show the innovation and best practices in agriculture. The best part? Students are so caught up in their virtual farm, they don't even know they are learning. Download it in the App Store and Google Play. www.Farmers2050.com

APPENDICIES

Appendix 10 – Smartphones Get Smarter

REFERENCES

<https://www.forbes.com/sites/nextavenue/2013/04/16/the-best-ways-to-get-free-help-starting-a-business/#55718e9321f4>

<https://www.sba.gov/business-guide/10-steps-start-your-business/>

<http://www.growingproduce.com/farm-management/gennext-growers/advice-for-taking-over-the-family-farm/>

STANDARDS ALIGNMENT

• **FFA PRECEPT:** FFA.PL-C.Vision, FFA.PL-D.Character, FFA.PL-F.Continuous Improvement, FFA.PG-J.Mental Growth, FFA.CS-M.Communication, FFA.CS-N.Decision Making, FFA.CS-O.Flexibility/Adaptability • **COMMON CORE - READING: INFORMATIONAL TEXT:** CCSS.ELA-LITERACY.RI.9-10.4 • **COMMON CORE - WRITING:** CCSS.ELA-LITERACY.W.9-10.2, CCSS.ELA-LITERACY.W.9-10.4 • **COMMON CORE - SPEAKING AND LISTENING:** CCSS.ELA-LITERACY.SL.9-10.4 • **AFNR CAREER READY PRACTICES:** CRP.04 • **P21 SKILLS:** Communication, Critical Thinking and Problem Solving, Initiative and Self-direction, Leadership and Responsibility

SMARTPHONES

Smartphones have become the ultimate multitool. The devices expand our senses. They are a window to the world. An entertainment center. A line of communication to family and friends. A supercomputer to run a farm and business.

And smartphones keep getting smarter. This year, you likely will see devices with bigger screens, better cameras, faster charging speeds, and lower prices for some models. Face ID will undergo new development. Artificial intelligence and virtual reality will continue to evolve. Mobile apps will be refined in their ability to help you manage your business, personal life, education and career.

Here, some of the brightest minds provide an overview of the ways smartphones are shaping agriculture.

1 FARMING BEFORE THE SUN SETS

Doug Adams uses his smartphone to organize a busy life as a sixth-generation Iowa farmer, USDA-NRCS employee and father of four. He uses a suite of Google apps on his phone to keep spreadsheets on the farming operation. Other apps are used to track crops from planting through harvest, to gauge rainfall amounts and to follow the markets. Twitter enables him to share ideas with others. "With my smartphone, I'm better able to document issues in the field, look up info online and make decisions sooner," he says. "Being employed off the farm, I need to be very efficient with my scouting after work – before the sun sets."

2 ALL THAT INFO

The smartphone has transformed ag, in large part, because of all the information we can carry with us, says Jesse Vollmar, CEO of the agricultural software company, FarmLogs. "We just simply know so much more about the conditions in our fields — weather, crop health, nitrogen levels, soil type — all easily available on demand." For example, in one cool feature of the FarmLogs app, "Farmers can push a button and have access to satellite images taken of their fields just a couple of days ago," he says.



GET SMARTER

3 WHAT'S INSIDE?

Much of the agricultural utility of a smartphone is powered by its physical sensors, including its GPS, camera and accelerometer. Smartphones also contain a gyroscope, magnetometer, barometer and other sensors. To date, the GPS and camera are the most popular sensors used in ag applications, university researchers say. But developers will increasingly use other smartphone sensors in ag applications, and smartphones will communicate with sensors placed on equipment like autonomous equipment, vehicles and ag robots more and more.

4 EXCITING INNOVATIONS

Two of the most exciting innovations in smartphones are augmented reality and image recognition via artificial intelligence, says Mark Young, chief technology officer of The Climate Corporation. "Smartphone-based image recognition can enable weed, pest and disease recognition in the palm of your hand. Simply frame the subject using the smartphone's camera and the application will identify a diseased plant, weed or pest," he says. "With augmented reality (still in prototype stage), imagine viewing a field through your smartphone camera and seeing data automatically display about the season's rainfall, latest nitrogen status, field notes, etc."

5 FUTURE FOCUS

Smartphones of the future may look a lot like they do now, in part, because "that screen is a great way to get things done," says Brian David Johnson, a futurist who works in ag. "But the next smartphones will be moving past current uses and into interaction with smart things and smart environments," he says. "You will have an increased ability to talk to your smartphone and will have more voice-based interactions." Johnson expects "smart young kids coming out of schools to create start-ups that will develop many new applications for agriculture."

BY JOHN WALTER

ILLUSTRATION BY PAUL LANGE

NAME: _____

Appendix 10 – Smartphones Get Smarter

Created: Summer 2018 by the National FFA Organization

DIRECTIONS:

Read the article “Smartphones Get Smarter” in the summer 2018 issue of *FFA New Horizons* and answer the questions below.



Part 1

1. Smartphones and their apps have helped make our lives easier. Research and find 3 apps that can help you with your classes/school. Identify the name of the app, describe it and identify the cost of the app. (See example below.)

For example:

GradeProof		This app helps you improve your grammar and writing style. The app is free, but you can upgrade to the premium version for \$10 per month.
		
		
		

Aligned to the following standards:

FFA.PL-C.; FFA.PL-D.; FFA.PL-F.; FFA.PG-J.; FFA.CS-M.; FFA.CS-N.; FFA.CS-O.; CCSS.RI.9-10.4; CCSS.W.9-10.2; CCSS.W.9-10.4; CCSS.SL.9-10.4; CRP.04

NAME: _____

Part 2

1. Design an app for people who want to start their own business or take over the family farm. Answer these questions to help you plan your app:

- What information do people entering the business field need to know?
- What information would they find useful?
- What resources (in the community for example) that could help them get started would be useful for them to know about?

Examples of websites to use to help with your research:

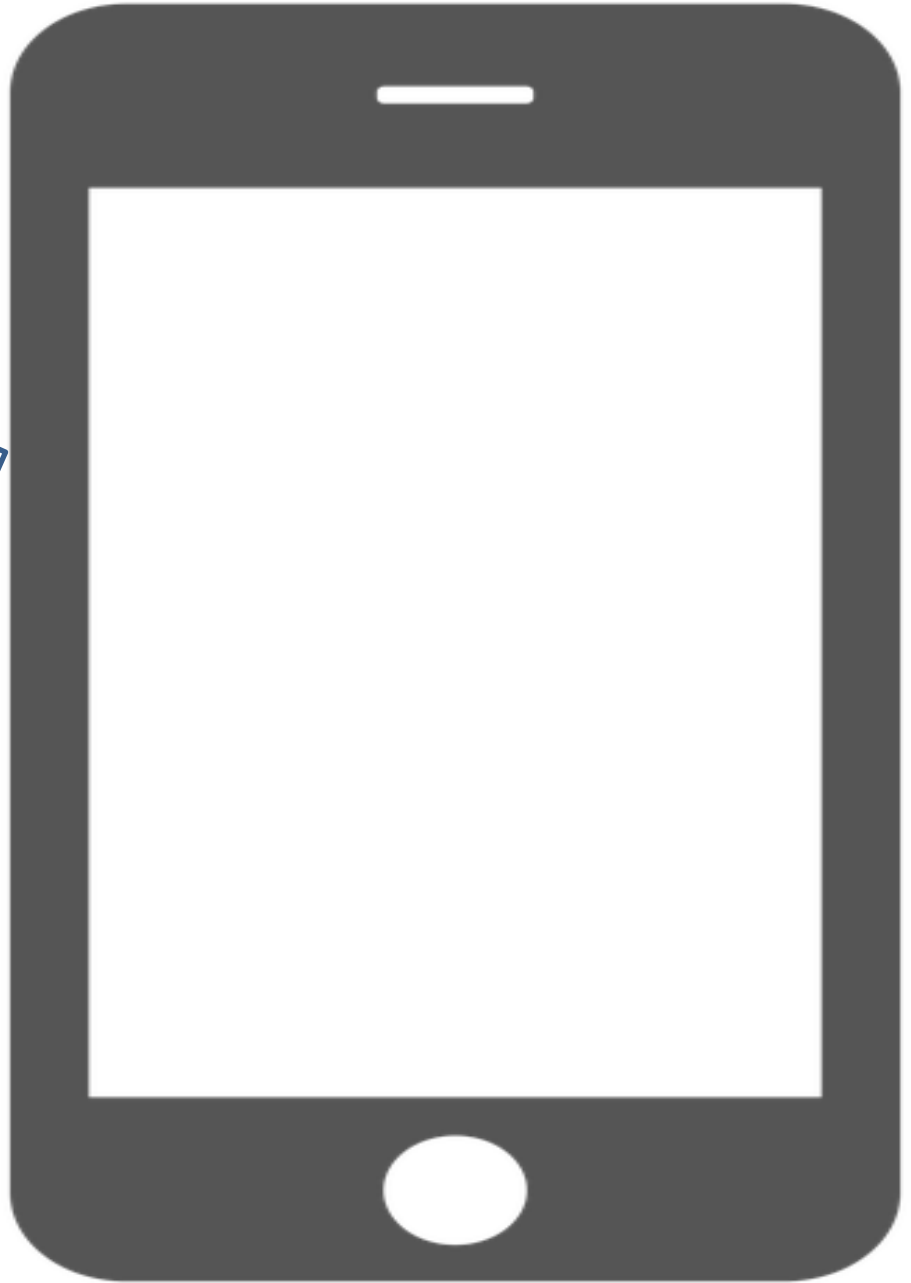
- <https://www.forbes.com/forbes/welcome/?toURL=https://www.forbes.com/sites/nextavenue/2013/04/16/the-best-ways-to-get-free-help-starting-a-business/&refURL=https://www.google.com/&referrer=https://www.google.com/>
- <https://www.sba.gov/business-guide/10-steps-start-your-business/>
- <http://www.growingproduce.com/farm-management/gennext-growers/advice-for-taking-over-the-family-farm/>

Use this space to capture your notes from the questions above. This information will help you with the activities below.

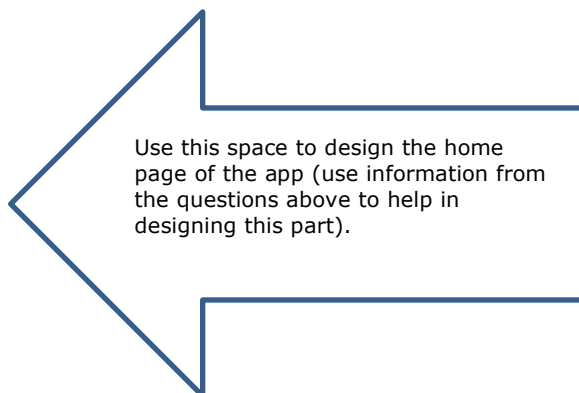


NAME: _____

Use this space (and the template below) to design your app. In this template, specifically, write the description of the app (what you would see before you download).

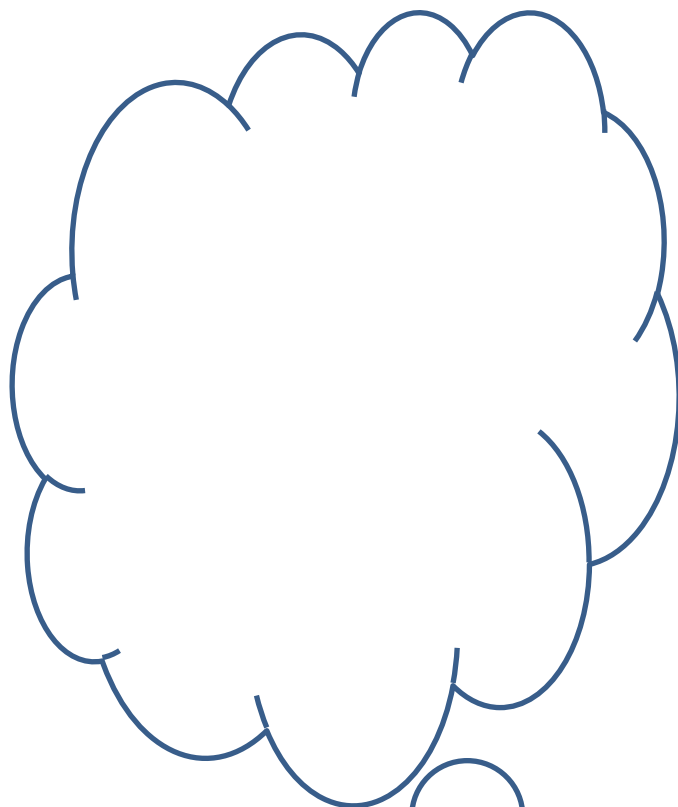


NAME: _____

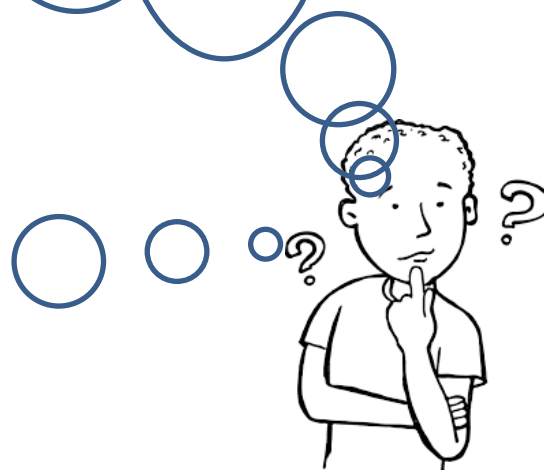
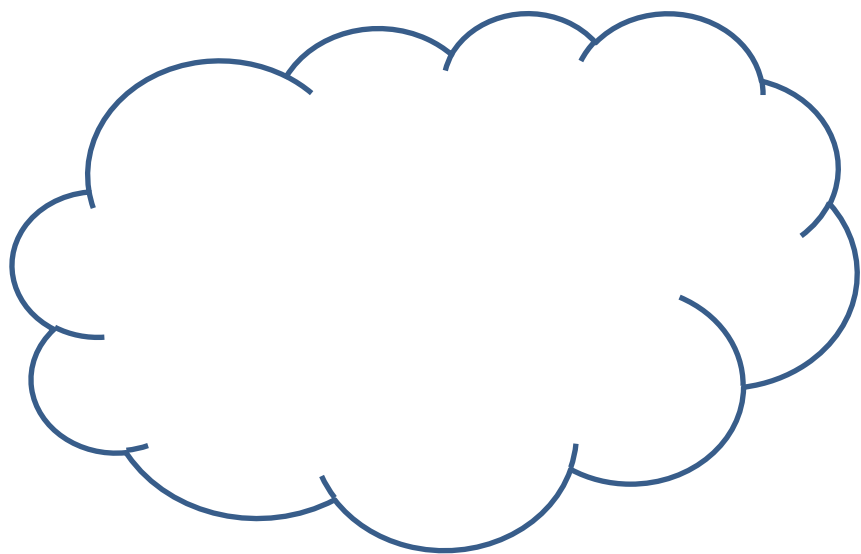


Use this space to design the home page of the app (use information from the questions above to help in designing this part).

What did you find difficult when creating/designing this app? How did you overcome that obstacle? (Answer in the bubble).



How have apps and smartphones impacted how you live your day-to-day life?



NAME: _____

Aligned to the following standards:
CS.05; FFA.PL-A; FFA.PL-C; FFA.PL-E; FFA.PL-F; FFA.PG-I; FFA.PG-J; AG5; CRP.04

KEY – Appendix 1 – A New Worldview

DIRECTIONS:

Read the article "A New Worldview" in the summer issue of *FFA New Horizons*. As you read how FFA influenced Bella Culotta, complete the activities below.

Culotta's school did not offer FFA, so what did she do?

Being a high-achieving student, Culotta applied and was accepted to the TST BOCES New Visions in Life Sciences program. Upon her arrival, she got involved in FFA, which led her to the experiences that have had an impact on her life.

Describe the Tompkins-Seneca-Tioga (TST) Board of Cooperative Educational Services (BOCES) New Visions in Life Sciences program.

The program is focused on giving students an in-depth look at the life sciences through both classroom and experiential learning opportunities.

How does the TST BOCES program compare to the FFA program offered at your school?

Answers will vary.



What is the World Food Prize Global Youth Institute?

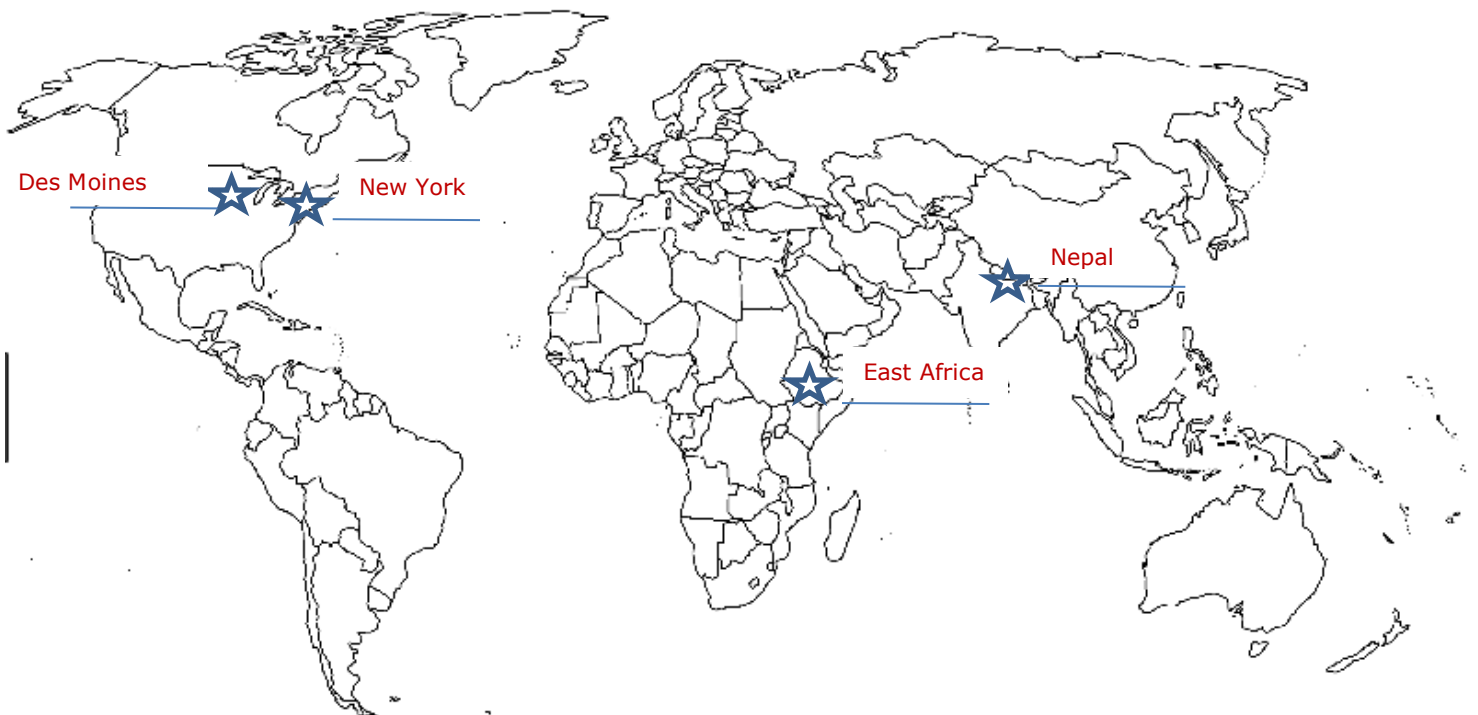
The World Food Prize Global Youth Institute is a program where youth meet and interact with international experts. Through this program, students also present and work through innovative ideas.

Who hosts this program?

The World Food Prize Institute

NAME: _____

Using the provided map, place a ★ on the places Culotta has visited/worked and label them.



Using a minimum of three sentences, describe how you can get global experiences that will have a meaningful and long-lasting impact on your future.

Answers will vary.

What opportunities exist in your program that you can take advantage of to reach your future goals?

Answers will vary.

NAME: _____

Aligned to the following standards:
CS.02; CS.05; FFA.PL-A; FFA.PL-E; FFA.PL-C; FFA.PL-F; FFA.PG-J; FFA.CS-N; AG2;
CCSS.SL.9-10.2; CRP.02; CRP.04; CRP.06

KEY – Appendix 2 – Ag Under Water

Created: Summer 2018 by the National FFA Organization

DIRECTIONS:

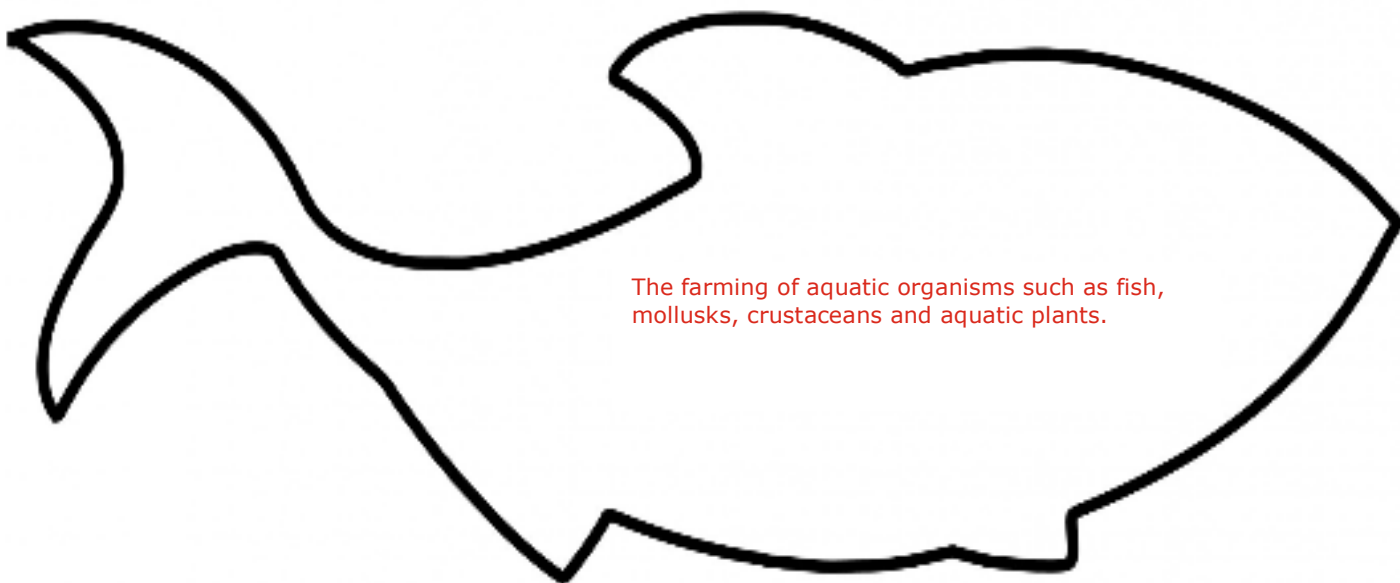
Circle all the images below that contain farmed aquatic organisms (ex: fish, mollusks, crustaceans and aquatic plants).

John Boy's Grocery Store



DIRECTIONS:

Read the "Ag Under Water" article in the summer issue of *FFA New Horizons* and complete the following activities.



The farming of aquatic organisms such as fish, mollusks, crustaceans and aquatic plants.

NAME: _____

Aligned to the following standards:
CS.02; CS.05; FFA.PL-A; FFA.PL-E; FFA.PL-C; FFA.PL-F; FFA.PG-J; FFA.CS-N; AG2;
CCSS.SL.9-10.2; CRP.02; CRP.04; CRP.06

What coursework do students at Aqua take?

1. Marine ecology
2. Seafood science
3. Biology
4. Chemistry, physics, marine design, coastal navigation/piloting, etc.



What coursework does your school offer that is similar to Aqua or would give you knowledge in aquaculture?

Answers will vary.

1. _____
2. _____
3. _____
4. _____



If you wanted to study aquaculture after high school, where could you go?

1. University of Rhode Island
2. Auburn University

Using AgExplorer.FFA.org, identify three careers you could have in the field of aquaculture. Answers will vary.

1. _____
2. _____
3. _____



NAME: _____

Aligned to the following standards:
CS.02; CS.05; FFA.PL-A; FFA.PL-E; FFA.PL-C; FFA.PL-F; FFA.PG-J; FFA.CS-N; AG2;
CCSS.SL.9-10.2; CRP.02; CRP.04; CRP.06

Give it a Try!

DIRECTIONS:

Watch the video "What is the ASC?" (<https://youtu.be/LHq-uer4ZJA>) and complete the following activity.

In the blanks for Questions 1, 2, and 3, identify ways you could incorporate aquaculture in your life no matter where you live. Then, answer the questions that follow.

1. Buy farmed fish

- a. Draw the Aquaculture Stewardship Council label in the space below so you know what to look for in sustainably sourced aquatic products.



- b. Why would you want to purchase products that are sustainably sourced? Why does this label matter?

To ensure that the product/source will not be depleted and is being farmed in a responsible manner. The label gives an outward indication that the product was sustainably sourced and meets ASC requirements.

2. Set up a mini system

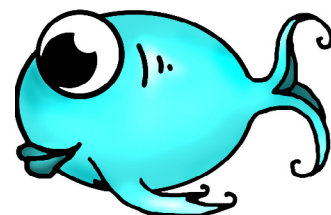
- a. Draw and label a place and system in your school where you could incorporate some kind of aquaculture.

Answers will vary.

3. Schedule a Tour

- b. Research and find a place close to your school that you could visit to learn more about aquaculture systems. Record your response on the line below.

Answers will vary.



NAME: _____

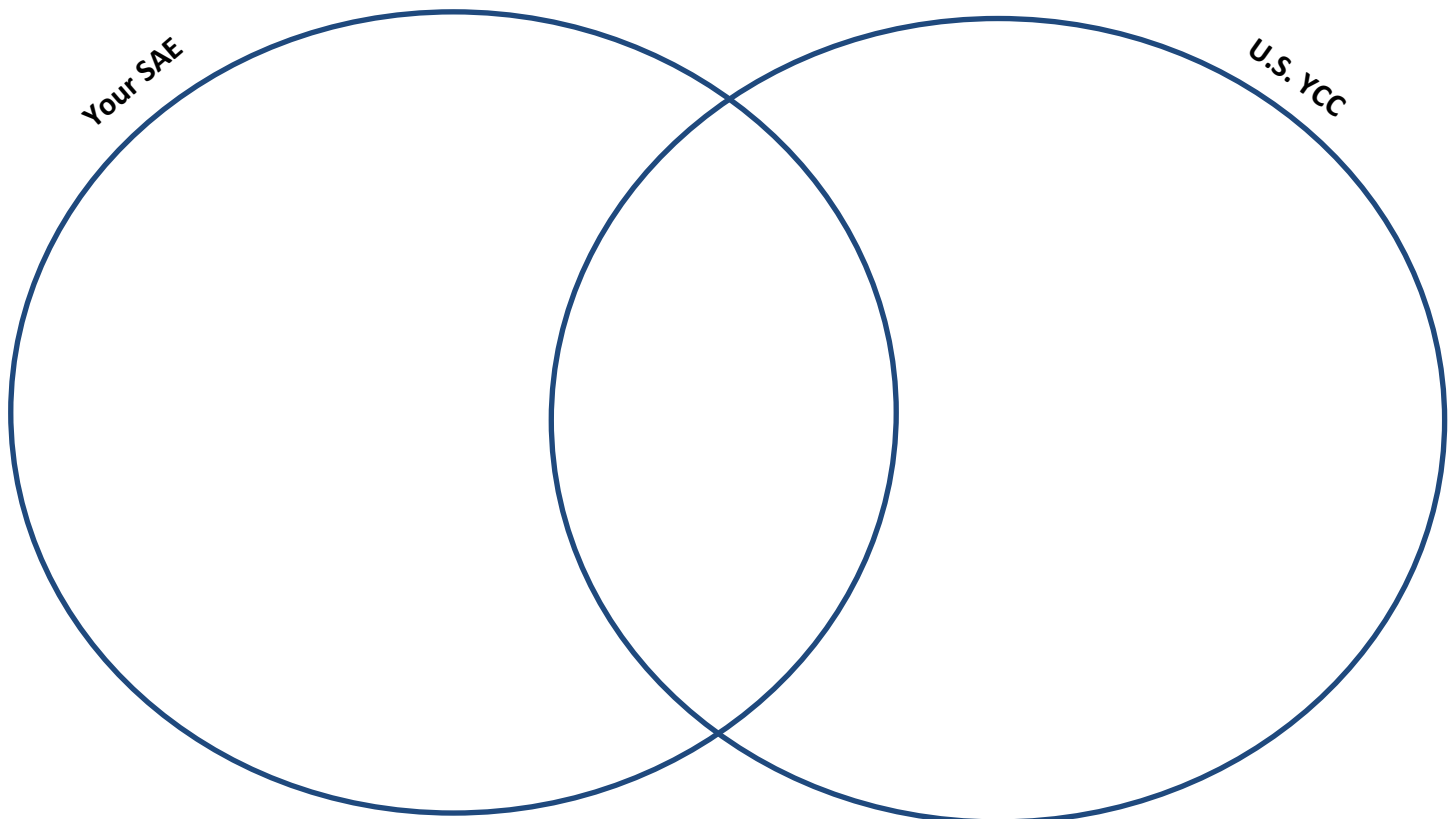
KEY – Appendix 3 – “Work in the Wild”

Created: Summer 2018 by the National FFA Organization

DIRECTIONS:

Read the article “Work in the Wild” found in the summer 2018 *FFA New Horizons* magazine and complete the following activities.

1. What is the U.S. Youth Conservation Core (YCC)?
The Youth Conservation Core (YCC) is a program hosted by the National Park Service that employs youth throughout the country to give them experience working within natural resource systems.
2. Who is eligible to participate in the U.S. YCC? **Youth ages 15 to 18**
3. Who runs and is in charge of the U. S. YCC? **National Park Service**
4. What are the benefits to being involved in the U.S. YCC program? **Answers will vary.**
 - a. _____
 - b. _____
 - c. _____
5. Select an SAE of interest to you by utilizing the SAE idea cards (you may use your own SAE if you have one). Compare and contrast your selected SAE with the U.S YCC program. **Answers will vary.**



NAME: _____

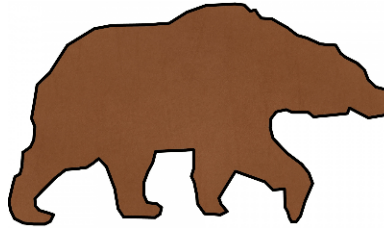
Aligned to the following standards:
CS.02; CS.05; FFA.PL-A; FFA.PL-C; FFA.PL-E; FFA.PL-F; FFA.PG-J; FFA.CS-N; AG2;
AG5; AGC09.02; CCSS.W.9-10.2; CCSS.SL.9-10.2; CRP.02; CRP.04

DIRECTIONS:

Watch the video "Making a Difference at the Kodiak Refuge" (<https://www.nps.gov/media/video/view.htm?id=958562E3-1DD8-B71B-0B29585BD587AE6F>) and complete the next question.

What types of experiences did the students in U.S. YCC have? **Answers will vary.**

1. _____
2. _____
3. _____



DIRECTIONS:

Go to the following website and read the blog created by students in the U.S. YCC program:
<https://www.fs.fed.us/blogs/youth-conservation-corps-programs-make-difference>.

On a separate sheet of paper, create a blog to educate and excite others about an FFA activity or event that your chapter hosts.

Include the following in your blog:

1. A creative/catchy title.
2. Authors.
3. Date of creation.
4. Descriptive information about the event.
5. Pictures.
6. Color.

Criteria	Rating Excellent (10 – 7 points)	Rating Good (6 – 4 points)	Needs Improvement (3 – 0 points)	Point Total (40 points)
Creative/Catchy Title, Date, Author(s)	Thought, time and creativity were used to create a title that would thoroughly catch a reader. Date and authors included.	Title included but very generic. No date or authors, or only one included.	Little to no thought was included in the title AND/OR no date, title, authors included.	
Color & Pictures	Student adds color to the entire blog where necessary and used captivating images.	Some color was utilized. Images did not match or enhance the blog.	No color or pictures included.	
Blog writing	Well written, conveys the message accurately.	Did not thoroughly describe the program. Some spelling/grammar issues.	Little description, many spelling/grammar issues.	
Overall impact of the blog	Grabs attention and meets the needs of the blog.	Somewhat impactful.	Very little impact/effort provided.	
Total				

NAME: _____

Key – Appendix 4 – Dedication to Education

Created: Summer 2018 by the National FFA Organization

DIRECTIONS:

Read the article "Dedication to Education" in the summer 2018 issue of *FFA New Horizons* and answer the questions below.



Part 1

To learn about the CHS Foundation and CHS Stewardship visit the CHS Stewardship, Developing Ag Leaders website (<http://www.chsinc.com/stewardship/developing-ag-leaders>) to begin your research about the CHS Foundation. Additionally, use the "CHS 2017 Giving Report" for more information (Appendix 5). (*CHS Stewardship is the broader umbrella that incorporates the CHS Foundation and Corporate Citizenship.*)



1) What is the focus of the CHS Foundation?

The CHS Foundation is focused on developing a new generation of agriculture leaders for life-long success.

2) How does the CHS Foundation help support rural youth leadership?

The CHS Foundation provides support at the state, regional and national levels to help impact ag youth leadership programs. Such partnerships include National FFA, Agriculture Future of America and National Ag in the Classroom.



3) How is the CHS Foundation funded?

The CHS Foundation is funded by charitable gifts from CHS, Inc.

4) What is the goal of the CHS Foundation by 2020?

By 2020, the CHS Foundation will invest \$8.9 million to ignite innovation in cooperative education and drive excellence in agricultural education.

Aligned to the following standards:

FFA.PL-C.; FFA.PL-D.; FFA.PL-F.; FFA.PG-J.; FFA.CS-M.; FFA.CS-N.; FFA.CS-O.; CCSS.RI.9-10.4; CCSS.W.9-10.2; CCSS.W.9-10.4; CCSS.SL.9-10.4; CRP.04