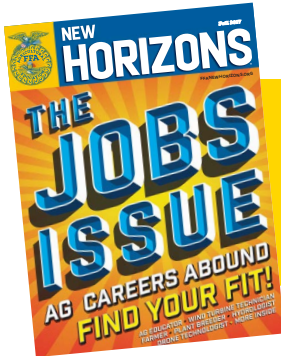




NEW HORIZONS

FALL 2017 TEACHING GUIDE



IN THIS GUIDE, YOU WILL FIND SEVERAL ACTIVITIES THAT ACCOMPANY ARTICLES FROM THE FALL 2017 ISSUE OF FFA NEW HORIZONS. ANSWER KEYS TO APPROPRIATE WORKSHEETS CAN BE FOUND AT THE END OF THE GUIDE. ALL ACTIVITIES ARE ALIGNED TO THE EDUCATIONAL STANDARDS (SEE EACH ACTIVITY TO SEE THE SPECIFIC STANDARDS).

CONTENT WITHIN THIS GUIDE IS ALIGNED WITH THE FOLLOWING:

- FFA Precepts
- Agriculture Food and Natural Resources (AFNR)
- Common Career Technical Core
- National Association of State Directors of Career Technical Education Consortium (NASDCTEc)
- Common Core - Reading: Informational Text
- Common Core - Writing
- Common Core - Language
- Common Core - Speaking and Listening
- Common Core - Science & Technical Subjects
- Common Core - Literacy
- in Science & Technical Subjects: Writing
- Common Core - History/Social Studies
- Common Core - Math Practices
- Common Core - Math (Specific)
- Next Generation Science Standards (NextGen)
- Green/Sustainability/Knowledge and Skill Statements
- National Standards for Financial Literacy
- AFNR Career Ready Practices
- Partnership for 21st Century Skills (P21 Skills)
- Career Pathways

SCHOLARS SAY...

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

Biodiesel	Durum wheat
Hydrogen	Administrator
Nuclear energy	Instrumental
Geothermal	Agricultural technology
Hydroelectric	Mechanical systems
Fossil fuels	Tulsa Welding School
Ethanol	American Welding Society
Fiber	Stereotypical
Sentiments	

VOCABULARY ACTIVITY

Using the "Vocabulary Bingo" sheet (Appendix 7), students will play bingo to learn the vocabulary featured in this issue of the magazine. Different bingo sheets are provided. Internet access is not required for this activity.

TECHNOLOGY INTEGRATION HOW TO INTEGRATE TECHNOLOGY

Use technology to help students review and prepare for quizzes and tests. Use online review games, such as Kahoot (referenced in Appendix 2), Quizizz and Quizalize, which are customizable to your class.

<https://quizizz.com>

<https://kahoot.com>

<https://www.quizalize.com/for-kahoot-users>

COMMON CORE TIP

In need of resources to understand how to incorporate Common Core into your classroom? Check out this website for a variety of resources and tips, <http://www.simplek12.com/common-core/15-common-core-resources-for-teachers>.

LITERACY QUOTES

"Reading gives us some place to go when we have to stay where we are."
– Mason Cooley

"Today a reader, tomorrow a leader." – Margaret Fuller

REFERENCES

"Local and Regional Food Systems"
<http://www.sustainabletable.org/254/local-and-regional-food-systems>

"10 Reasons to Support Farmers Markets"
<https://cuesa.org/learn/10-reasons-support-farmers-markets>

"15 Common Core Resources for Teachers,"
by Kimberly Kellogg
<http://www.simplek12.com/common-core/15-common-core-resources-for-teachers>

"A Renewable Energy Boom"
<https://www.nytimes.com/2016/04/04/opinion/a-renewable-energy-boom.html>

Alternative Energy
<https://www.ted.com/topics/alternative+energy>

<https://www.millerwelds.com/resources/video-library>

<https://www.agexplorer.com/virtual-field-trip>

<http://www.farmlandfilm.com>

APPENDICES:

- 1 Alternative Fuels
- 2 Harvest the Benefits
- 2 KEY Harvest the Benefits
- 3 Interview an Alumnus
- 4 Life of a Welder
- 4 KEY Life of a Welder
- 5 Top 5 Careers
- 5 KEY Top 5 Careers
- 6 Photojournalism
- 7 Vocabulary Bingo

Appendix 7:
Aligned to the following standards:
FFA.PL-B.; FFA.PG-H; FFA.CS-M.; CCSS.RI.9-10.4.

NAME: _____

Vocabulary Activity – BINGO

DIRECTIONS

Take a scrap sheet of paper and tear it into small pieces. You will use these pieces as your “bingo chips.” When you hear a definition, find the correct word on the sheet and cover it with a bingo chip.

Agricultural Technology	Stereotypical	Biodiesel
Fossil Fuels	Geothermal	Ethanol
Hydroelectric	Nuclear Energy	Fiber
Instrumental	Sentiments	Administrator
American Welding Society	Free Space	Tulsa Welding School

NAME: _____

Appendix 7:
Aligned to the following standards:
FFA.PL-B.; FFA.PG-H; FFA.CS-M.; CCSS.RI.9-10.4.

Vocabulary Activity – BINGO

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Free Space	Stereotypical	American Welding Society
Hydroelectric	Geothermal	Ethanol
Fossil Fuels	Administrator	Fiber
Instrumental	Sentiments	Agricultural Technology
Biodiesel	Nuclear Energy	Tulsa Welding School

NAME: _____

Appendix 7:
Aligned to the following standards:
FFA.PL-B.; FFA.PG-H; FFA.CS-M.; CCSS.RI.9-10.4.

Vocabulary Activity – BINGO

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Take a scrap sheet of paper and tear it into small pieces. You will use these pieces as your “bingo chips.” When you hear a definition, find the correct word on the sheet and cover it with a bingo chip.

Nuclear Energy	Stereotypical	Geothermal
Hydroelectric	American Welding Society	Ethanol
Biodiesel	Free Space	Tulsa Welding School
Instrumental	Sentiments	Agricultural Technology
Fossil Fuels	Administrator	Fiber

NAME: _____

Definitions:

Nuclear Energy — Energy released during a nuclear reaction because of fission or fusion. Also called atomic energy.

Hydroelectric — Relating to or denoting the generation of electricity using flowing water (typically from a reservoir held behind a dam or other barrier) to drive a turbine that powers a generator.

Biodiesel — A biofuel intended as a substitute for diesel.

Instrumental — To be important in making something happen.

Fossil Fuels — A natural fuel such as coal or gas, formed in the geological past from the remains of living organisms.

Stereotypical — Relating to a widely held but fixed and oversimplified image or idea of a particular type of person or thing.

American Welding Society — Founded in 1919 as a nonprofit organization with a global mission to advance the science, technology, and application of welding and allied joining and cutting processes, including brazing, soldering, and thermal spraying.

Sentiments — A view of or attitude toward a situation or event; an opinion.

Administrator — A person responsible for running a business, organization, etc.

Geothermal — Relating to or produced by the internal heat of the earth.

Ethanol — Renewable fuel made from corn and other plant materials.

Tulsa Welding School — Has been training students for successful careers since 1949. Their staff has developed a largely hands-on curriculum that incorporates real-world training. Their programs are designed to match employers' needs and are taught by knowledgeable professionals with real-world experience.

Agricultural Technology — Technology for the production of machines used on a farm to help with farming.

Fiber — A thread or filament from which a vegetable tissue, mineral substance, or textile is formed.



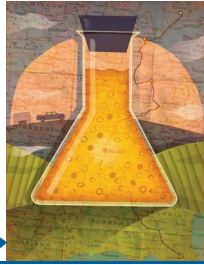
NEW HORIZONS

FALL 2017 TEACHING GUIDE

Energy-Powered EDUCATION



NEW! HORIZONS OFFERS A UNIQUE OPPORTUNITY FOR STUDENTS TO LEARN ABOUT THE FUTURE OF AGRICULTURE AND FOOD SYSTEMS.



ARTICLE SUMMARY

Energy-Powered Education

Dive into this article for a peek inside a one-of-a-kind high school agriculture program that focuses on alternative energy. This article discusses how the students grow their own soybeans to produce biodiesel, which they use to power everything from cars and trucks to tractors and go-karts.

DISCUSSION QUESTIONS

1. What factors make this chapter's program unique?
2. What can your chapter do involving alternative fuels?
3. How will alternative fuels affect our future?

ACTIVITY

Activity 1: After reading the article, students should complete the worksheet, "Alternative Energy," (Appendix 1). Internet access is required to complete this activity.

In this activity, students will follow the instructions on the [website](#), Energy and Science Projects for Students, to complete this alternative energy activity. At the end of the activity, students will answer the processing questions on the worksheet.

FFA TIP

Have students research and complete an agriscience fair project related to alternative energy and fuels. Visit the Agriscience Fair [webpage](#) to find out more.

SAE TIP

Add to the classroom experience by starting a supervised agricultural experience (SAE) outside of class time using the school farm and laboratories. FFA members could:

- Create classroom curriculum about renewable energy and agriculture and sell it to a curriculum company or other agricultural education programs.
- Perform research, do an experiment or invent new technology to use agricultural products to generate energy.
- Create and put into place a marketing plan to sell the energy or the energy production technology.

VOCABULARY

Biodiesel
Hydrogen
Nuclear energy
Geothermal
Hydroelectric
Fossil fuels
Ethanol

CAREER PATHWAY

Biotechnology Systems
Natural Resources Systems
Power, Structural and Technical Systems

RELATABLE ARTICLES

"A Renewable Energy Boom"

<https://www.nytimes.com/2016/04/04/opinion/a-renewable-energy-boom.html>

RELATABLE VIDEOS

Watch this Ted Talks about alternative energy

<https://www.ted.com/topics/alternative-energy>

APPENDICIES

Appendix 1 – Alternative Energy

STANDARDS ALIGNMENT

FFA PRECEPT

FFA.CS-M.Communication: Effectively interact with others in personal and professional settings.

COMMON CAREER TECHNICAL CORE

AG1 Analyze how issues, trends, technologies and public policies impact systems in the Agriculture, Food & Natural Resources Career Cluster.

AG6 Analyze the interaction among AFNR systems in the production, processing, and management of food, fiber, and fuel and the sustainable use of natural resources.

NASDCTEC

AGC10.03 Compare and contrast issues affecting the AFNR industry including biotechnology, employment, safety, environmental and animal welfare to demonstrate an understanding of the trends and issues important to careers in this industry.

COMMON CORE - READING: INFORMATIONAL TEXT

CCSS.ELA-LITERACY.RI.9-10.4 Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language of a court opinion differs from that of a newspaper).

COMMON CORE - WRITING

CCSS.ELA-LITERACY.W.9-10.2 Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

CCSS.ELA-LITERACY.W.9-10.4 Produce clear and coherent writing the development, organization, and style are appropriate to task, purpose, and audience.

COMMON CORE - SPEAKING AND LISTENING

CCSS.ELA-LITERACY.SL.9-10.4 Present information, findings, and supporting evidence clearly,

concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.

GREEN/SUSTAINABILITY/ KNOWLEDGE AND SKILL STATEMENTS

AFNR Career Cluster, Statement 6 Use green technologies and sustainability practices to maintain safe and healthful working environments that sustain the natural environment and promote well being in the AFNR workplaces.

AFNR CAREER READY PRACTICES

CRP04. Communicate clearly, effectively, and with reason. Career-ready individuals communicate thoughts, ideas and action plans with clarity, whether using written, verbal and/or visual methods.

CRP05. Consider the environmental, social and economic impact of decisions. Career-ready

individuals understand the interrelated nature of their actions and regularly make decisions that positively impact and/or mitigate negative impact on other people, organizations and the environment.

CRP08. Utilize critical thinking to make sense of problems and persevere in solving them. Career-ready individuals readily recognize problems in the workplace, understand the nature of the problem, and devise effective plans to solve the problem.

Energy- Powered EDUCATION



Gabby Kendrick with
Dr. Garry Gibson.

**FOR WHITES CREEK FFA MEMBERS
IN NASHVILLE, AGRICULTURAL
EDUCATION IS A RIDE FUELED BY
ALTERNATIVE ENERGY.**

**STORY BY NICOLE WARD AND JULIE WOODARD
ILLUSTRATION BY ROCCO BAVIERA
PHOTOGRAPHY BY PAIGE RUMORE**

With her blue-tinted hair pulled into a loose topknot and proudly wearing a school-mascot sweatshirt, FFA member Gabby Kendrick could be any teenager in any high school in any town in America.

Well, not quite.

That's because, at this moment, Kendrick has traded LOLs and emojis for words like hydrogen, nuclear energy, biodiesel and greenhouse gas emissions. She sounds more like a master's student than a teenager, but that's to be expected. As one of 38 FFA members enrolled in the award-winning Whites Creek Alternative Energy Academy in Nashville, Tenn., Kendrick is not alone in her passion for energy conversion.

"These kids are awesome," says Dr. Garry Gibson, Whites Creek FFA advisor. "We are a city school, so most of these kids don't have a farm background. But they love the program. They would bleed blue tomorrow. They love FFA."

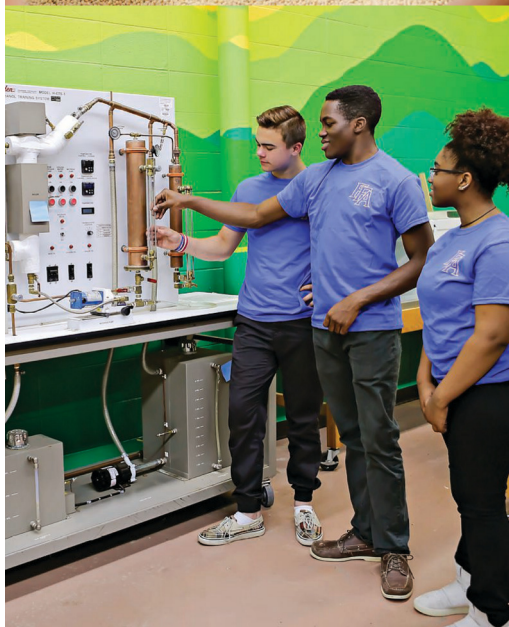
The only program of its kind in the U.S., the Whites Creek FFA alternative energy program introduces high school students – most of whom have never considered agriculture – to the world of alternative energy. The four-year program prepares students for a future in this fast-growing, high-paying industry.

A RENEWABLE PLAYLAND

The program began when Dr. Gibson, a graduate of The Ohio State University with a doctorate in agricultural education and more than 25 years of experience under his belt, started teaching at Whites Creek High School in 2014. Students in the program study several energy sources including solar and wind energy,

Last fall, 16 Whites Creek FFA members journeyed across the U.S. and Canada to share their knowledge of alternative energy.





Top: Soybeans grown by students at a community garden will be converted into biodiesel. Bottom: Students demonstrate how they use an ethanol processor to make biodiesel.

ethanol and biodiesel production, geothermal, hydroelectric, nuclear and fossil fuels. Each student enrolls in four main classes: agriscience, introduction to alternative energy, greenhouse management and advanced

alternative energy production.

Adding to the program's uniqueness, students grow soybeans to produce their own biodiesel, which they use to power everything from cars and trucks to tractors and go-karts. The city of Nashville allows the program to use an 8-acre community garden plot near the school.

On 4 acres, students grow vegetables. In the last two years, the chapter has grown over 12,000 pounds of produce that is given to those in need in the community. The other 4 acres are used to grow varieties of soybeans. A local farmer harvests the soybeans, which are then taken into the school's lab, pressed into oil and processed into biodiesel.

"This is how we get back to agriculture. We make the fuels from renewable plant sources that farmers can grow," Dr. Gibson says.

What's learned in the classroom is then put into action next door in the program's laboratory, which is strewn with an assortment of pieces and parts: biodiesel-, solar- and ethanol-powered

go-karts, fuel pumps, processors, portable solar panels, auto motors, tabletop canisters with protruding tubes, and a stripped-down, economy-size red car that actually runs on renewable hydrogen. This renewable playland is dominated by a bold sign high overhead reminding students to "Think Safety."

"Originally, before I joined the program, I heard they had go-karts, and I was real excited," says junior and Chapter Vice President Allen England. "Not only did I get to build go-karts, but I also learned more about alternative energy and life lessons. I feel like we're making changes. It's great."

ON THE ROAD

Whites Creek is all about sharing the knowledge of alternative energy with others.

Every October, the chapter exhibits an alternative energy education booth at the state and national FFA conventions, where the members teach more than 60,000 students about alternative energy and feature their hydrogen tractor.

Last year, the chapter notched a first-place win in the national Ford STEM Community Challenge. Powered by its \$10,000 winnings and the chapter's F-250 truck fueled with biodiesel from the chapter's soybeans, a small group of students took their mobile lab, which is housed in a 24-foot enclosed trailer, on the road. The more than 2,000-mile, nine-day trip across the United States

ALTERNATIVE ENERGY CAREERS

Alternative energy is one of the fastest-growing industries – and one that will shape the future. Are you interested? Here are a few careers to consider. You can learn more about these and other careers at AgExplorer.com.

ENERGY SALES SPECIALIST

Generates fuel sales in an assigned territory through a variety of methods, including target marketing, competitive analysis and providing value-added energy products, services and recommendations.

BIOREFINING MANAGER

Converts biomass into fuels, power and chemicals to create more sustainable solutions to fuel our planet.

CLIMATE CHANGE ANALYST

Looks at research and data to predict future climate and recommend environmental practices.

WIND SUBSTATION TECHNICIAN

Performs installation, maintenance and testing of wind-energy collection sites where the power from the turbines is gathered.

ETHANOL ENGINEER

Helps an ethanol plant with cost-saving projects, such as energy reclaim/reduction, yield optimization and chemical-usage reduction.

WIND TURBINE TECHNICIAN

Installs, maintains and repairs wind turbines.

and Canada brought FFA members face-to-face with students in 17 high schools, colleges and universities.

"It brought us as close as a family," Dr. Gibson says. "We are a close-knit group here, particularly the kids in FFA. It's awesome when we take these kids out and they start talking about all this stuff and they have this lab. It just blows everyone's minds."

A highlight of the trip included a visit to the University of Florida, where FFA members taught two different classes of future agriculture teachers about alternative energy. The thought of high school students teaching teachers was a little scary at first.

"Is this really happening?" laughs sophomore and Chapter President Rachel Rhea. "We did awesome, though. The teachers were intrigued by what we had to say and were picking our brains for information. They were very engaged."

For Dr. Gibson, it's part of the plan.

"Having the kids teach raises the education to a higher level," he says. "It's way out of the box. As a teacher, they have to learn it and learn it well. The students do an excellent job

when they get out there. Our students become the teachers."

TRUE SUCCESS

In 2017, the chapter again won the national Ford STEM Community Challenge, but this time it received \$20,000. The chapter will use the money to build a 40-panel solar farm, convert a tractor and truck to run on hydrogen, and build a hydrogen reactor to make its own hydrogen as an alternative energy fuel. In June, the six chapter officers drove the mobile lab to Ford's corporate headquarters in Michigan to discuss the chapter's success with alternative fuels with Ford executives from around the world.

In addition, the program has won many state and national awards and garnered recognition. *Successful Farming* magazine recognized Whites Creek as one of three high schools in the United States that is shifting its focus with the changing landscape of agriculture. It also won the Governor's Environmental Award in 2015.

Winning awards aside, the true success of the program is measured by the lives transformed. Four students



McKenzie Broyles, a junior, fills 5-gallon containers with biodiesel processed in the school lab.

graduated from the program in 2016; all four are now at Tennessee State University majoring in agriculture. College freshman Shakarah Nelson is one of those graduates new to the world of alternative energy and FFA, thanks to Dr. Gibson.

"Dr. Gibson – we call him our dad. He saw potential in all of us that no one else could," Nelson says.

"When I see all of my kids doing these successful things," Dr. Gibson reflects, "sometimes I just stop and say, 'Thank you, God, for making me a teacher.'"

The advertisement features a large, stylized image of a silver fork and a wooden-handled pitchfork against a light blue background. In the bottom left corner, there are three Farmland product packages: 'CLASSIC CUT BACON', 'SMOKED SAUSAGE', and 'CUBED HAM'. The text 'Table TO FARM' is prominently displayed in a large, elegant font. Below this, the tagline 'Setting the table for tomorrow's farms.' is written in a bold, sans-serif font. The main body of text describes the partnership between Farmland and FFA, highlighting the support provided to young agricultural leaders. The website 'www.farmlandfoods.com' is listed. At the bottom, there are two logos: the Farmland logo, which includes a green field and a white cloud, and the FFA logo, which is a circular emblem with a plow and a sheaf of wheat. The copyright notice '©2017 Farmland' is in the bottom left corner.

Table TO FARM

Setting the table for tomorrow's farms.

Farmland has proudly partnered with FFA to ensure that young agricultural leaders get the support they need when facing the farming challenges of tomorrow. Find out how you can join us in supporting this important organization at

www.farmlandfoods.com

Farmland

Proud to Support

©2017 Farmland

NAME: _____

Alternative Fuels

Created: Fall 2017 by the National FFA Organization

Appendix 1:
Aligned to the following standards:
FFA.CS-M.; FFA.CS-N.; AG1; AG6; AGC10.03; CCSS.RI.9-10.4; CCSS.W.9-10.2.; CCSS.W.9-10.4.; CCSS.SL.9-10.4; CRP.04.; CRP.05.; CRP.08.; AFNR Career Cluster Statement 6.

DIRECTIONS

Read the article, "Energy-Powered Education," in the Fall 2017 issue of *FFA New Horizons*. Answer the following questions. (Information for this activity from *Energy and Science Projects for Students*:

<http://www.reachoutmichigan.org/funexperiments/agesubject/lessons/energy/peanut.html>)

Part 1 – Go to the above website and complete the activity. Follow the instructions and materials needed. (See additional page for a list of materials and instructions).

Part 2 – Answer the questions after completing the activity.

Part 1:

1. What was one factor you learned from this activity?

Part 2:

2. What are examples of alternative fuels?

3. Why are alternative fuels important to our environment?

Information from <http://www.reachoutmichigan.org/funexperiments/agesubject/lessons/energy/peanut.html>

Materials needed:

- A small bag/can of unsalted, shelled peanuts
- A cork
- A needle
- A large metal juice or coffee can
- A small metal can (like a soup can) with paper label removed
- A can opener
- A hammer
- A large nail
- A metal BBQ skewer (like the kind for kabobs)
- About a cup of water
- A thermometer
- Some matches or a lighter (ask an adult for help)
- A piece of paper and pencil to record your observations

Instructions:

Carefully push the eye of the needle into the smaller end of the cork.

Then gently push the pointed end of the needle into a peanut. If you push too hard, the peanut will break in pieces. If it does, use another peanut. It's also better to have the peanut at a slight angle.

Remove the two ends of the large juice can with the can opener. Be careful, as the top's and bottom's edges can be sharp!

Using the hammer and nail, have an adult punch holes around the bottom of the large can. These are air holes that will make the can act like a chimney to contain the heat energy, focusing it on the smaller can.

Remove the top end of the small can (if it is not already removed).

Using the hammer and nail, punch two holes near the top of the small can exactly opposite each other.

Slide the BBQ skewer through the holes of the small can.

Pour 1/2 cup of water into the small can and let it sit for an hour. This will allow the water to be heated or cooled to room temperature. (Munch on some peanuts while you're waiting.)

Put the thermometer into the water and record the temperature on your paper.

Place the cork and peanut on a nonflammable surface. Light the peanut with a match or lighter. Have an adult help you!

Sometimes the peanut can be difficult to light, so the lighter may be easier to use.

As soon as the peanut has caught fire, immediately place the large can around the nut. Balance the skewer holding the small can on the top of the large can.

Allow the nut to burn for several minutes or until it goes out.

Stir the water with the thermometer and record the temperature again.



NEW HORIZONS

FALL 2017 TEACHING GUIDE



ARTICLE SUMMARY

Harvest the Benefits

Strong bonds forged while in FFA have carried over into a thriving farm operation. Read this article to find out how close friends in high school took what they learned as agriculture students and FFA members and applied it to their farming operation.

DISCUSSION QUESTIONS

1. What do the two couples credit to FFA?
2. What is one factor you can take from this article and apply to your future self?

ACTIVITY

Activity 1: After reading the article, students should complete the worksheet, "Harvest the Benefits" (Appendix 2). Internet access is required to complete this activity.

Students will answer multiple choice questions based on the article. Students will also think of and reflect on one of their FFA experiences that has had a significant impact on their lives.

Activity 2: For this activity, students will interview a member of the local alumni chapter (or member of the community) about his or her business. Students will need a copy of the handout, "Interview an Alumnus – Getting to Know Their Business," (Appendix 4) to complete this activity. Internet access is not required for this activity.

FFA TIP

During a chapter meeting, have senior FFA members serve on a panel where younger FFA members can ask questions about their experiences in FFA and the lasting impact the organization has made.

SAE TIP

Learning how to keep accurate business records for your SAE helps your project succeed. It also gives you a valuable life skill and makes it easy to apply for FFA degrees and proficiency and Star awards.

VOCABULARY

Fiber
Sentiments
Durum wheat
Administrator
Instrumental

CAREER PATHWAY

Food Products and Processing Systems

RELATABLE ARTICLES

"Local and Regional Food Systems"

<http://www.sustainabletable.org/254/local-and-regional-food-systems>

"10 Reasons to Support Farmers Markets"

<https://cuesa.org/learn/10-reasons-support-farmers-markets>

RELATABLE VIDEOS

Check out the movie, "Farmland." Follow this link to for ways to watch the video, <http://www.farmlandfilm.com>.

APPENDICIES

Appendix 2 – Harvest the Benefits

Appendix 2 Answer Key – Harvest the Benefits

Appendix 3 – Interview an Alumnus Entrepreneur – Getting to Know Their Business

STANDARDS ALIGNMENT

FFA PRECEPT

FFA.PL-B.Relationship: Build relationships, work as a team player and appreciate the talents of others.

FFA.PG-H.Social Growth: Successfully interact with others and adapt to various social situations. AFNR

FFA.CS-M.Communication: Effectively interact with others in personal and professional settings. FFA.CS-N.Decision Making: Analyze a situation and execute an appropriate course of action. FFA.CS-O.Flexibility/Adaptability: Be flexible in various situations and adapt to change.

COMMON CORE - READING: INFORMATIONAL TEXT

CCSS.ELA-LITERACY.RI.9-10.4 Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language of a court opinion differs from that of a newspaper).

COMMON CORE - WRITING

CCSS.ELA-LITERACY.W.9-10.2 Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection,

organization, and analysis of content. CCSS.ELA-LITERACY.W.9-10.4 Produce clear and coherent writing the development, organization, and style are appropriate to task, purpose, and audience.

COMMON CORE - SPEAKING AND LISTENING

CCSS.ELA-LITERACY.SL.9-10.4 Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.

AFNR CAREER READY PRACTICES

CRP04. Communicate clearly, effectively, and with reason. Career-ready individuals communicate thoughts, ideas and action plans with clarity, whether using written, verbal and/or visual methods.

P21 SKILLS

Communication
Critical Thinking and Problem Solving
Environmental Literacy
Think Creatively

**A BOND ESTABLISHED
IN FFA HELPED THESE
ALUMNI CREATE
A THRIVING FARM
OPERATION.**

HARVEST THE BENEFITS

STORY BY JESSICA WALKER BOEHM • PHOTOGRAPHY BY JEFF NOBLE



Though John and Alicia Boelts (left) and Jenny and Kent Inglett were classmates for several years, their personal and professional relationships began to take shape through Kofa FFA in Yuma, Ariz.

It's no secret that FFA involvement often enhances members' high school experiences. But for some, it also significantly impacts the course of their lives.

That's the case for married couples John and Alicia Boelts and Kent and Jenny Inglett, who were part of the Kofa FFA Chapter in Yuma, Ariz., in the 1990s. The couples now own Desert Premium Farms together. Although they were classmates for several years, it was through FFA that their personal and professional relationships truly began to take shape – and they're still reaping the benefits more than two decades later.

"I owe a lot to FFA, and I think we all feel that way," John says. "We really believe in the

foundational principles of the organization, and we think our participation in it gave us a big leg up in life and in our business."

THE PATH TO PRODUCE

Both the Boelts and the Ingletts say the lessons they learned as members of the Kofa FFA still resonate today. Jim Armbruster, who was the chapter's advisor, taught members about the business and financial aspects that go along with farming, and John says those lessons have come in handy over the years.

"One of the most important things I took away from FFA was the realization that, although there's a romantic side to farming – there is something special about growing crops and producing food, fiber and feed from the



“WE’RE VERY PROUD OF WHAT WE DO. WE LOVE FARMING, AND WE’RE GLAD WE CAN PROVIDE SOMETHING USEFUL TO MILLIONS OF PEOPLE.” - JOHN BOELTS

soil – at the end of the day, you have to make a profit,” John says. “We were taught that there’s a business side to farming, and we learned to keep good, detailed records, which is something we have implemented with Desert Premium Farms from day one. We also learned the importance of having plans in place so we could face whatever came our way.”

Alicia echoes John’s sentiments and recalls how she gained valuable experience by competing in a business-focused career development event (CDE) during her FFA career.

“When we started Desert Premium Farms, I felt so grateful that we learned about the business side of agriculture in FFA and in the classroom,” says Alicia, who helps manage the farm’s finances. “I liked math, so I decided to focus on

agricultural business for my second CDE, and I definitely learned a lot. It actually helps me do the accounting work I do today for the farm.”

The Boelts and Ingletts also obtained leadership skills and learned to network while participating in FFA. Both John and Kent served as president of the Kofa FFA Chapter during their respective junior and senior years, and Alicia was elected district state FFA vice president after graduating from high school in 1998. In addition, Jenny was an active FFA member who competed in livestock shows each year.

“The times when we had to learn how to interact with potential business associates while in FFA were



important,” John says. “We learned to meet others’ expectations and to be responsive to the customers we worked with, as well as those we hoped to work with.”

Kent remembers participating in FFA competitions, including Creed Speaking, as well as learning about the technical and mechanical aspects of

John and Kent manage the farm together. Alicia is responsible for the detailed farm accounting and Jenny, who also has a full-time, off-farm job, helps as needed. Both families have three children.

student, and those skills are still proving valuable today.

"I learned so much in FFA, and I know I wouldn't be where I am today without it," Kent says. "FFA was a vital, instrumental part of my education."

FROM YUMA, WITH LOVE

Established in 2010, Desert Premium Farms is an approximately 2,000-acre farm in Yuma that primarily grows iceberg and romaine lettuce, which are planted in the fall and harvested in the winter. In fact, 80 percent to 90 percent of all leafy greens consumed by Americans during the winter come from the Yuma area, and Desert Premium Farms is a big contributor. The families also grow spring and summer crops, such as durum wheat, cotton and cantaloupe, and

production farming. He says the skills he picked up in FFA helped him get a job as a 15-year-old high school

they've recently expanded their farm to include organic vegetables and organic rotational crops.

Although the operation started out small with just 100 acres of seed crops, it didn't stay that way for long, and John and Alicia soon sought help from their lifelong friends.

"We dove right in," John says. "Our business kept expanding, and after about a year, we decided to partner up with Kent and Jenny. We also ended up partnering with Jenny's parents during a period of major growth, and they're currently our landlords. Working with them helped us make it over some of the hurdles we encountered early on."

While John and Kent manage all aspects of the farm together, Alicia is responsible for the detailed farm accounting. Jenny, who also has a full-time, off-farm job as an administrator at a local hospital, helps as needed, along with their base of approximately 18 employees. During its busy season in the cooler months, Desert Premium Farms employs around 40 people to meet the needs of customers. Currently, the farm's products are available in restaurants and grocery

stores across the U.S. and Canada.

"We're very proud of what we do," John says. "We love farming, and we're glad we can provide something useful to millions of people."

With the couples managing a booming farm operation and caring for their children (both the Boelts and Ingletts have three children), their free time is limited, but they make time to give back to the ag community and to promote the industry.

John and Kent serve on the Yuma County Farm Bureau board of directors and take on leadership roles with the organization when possible. Additionally, John has served as the vice president for the Arizona Farm Bureau for more than three years, and the Boelts recently joined the National FFA Alumni Association, to which they are looking forward to contributing. After all, John says, FFA has done so much for them.

"It's amazing the things you can end up doing with people you build relationships with early in life," John says. "When you find compatibility with the right people, you are able to accomplish incredible things." •

90TH NATIONAL FFA CONVENTION & EXPO WEDNESDAY CONCERT

FEATURING

RASCAL FLATTS

OCT. 25, DOORS: 7:30 P.M. EDT

PRESENTED BY

Culver's



OF ALL THE WAYS WE SUPPORT FFA, THIS ONE ROCKS.

This one goes out to the FFA members of America as our way of saying Thank You for all your hard work. Learn more about Culver's Thank You Farmers™ program and how we're giving back at culvers.com/farmers.

© 2017 Culver Franchising System, Inc.

NAME: _____

Appendix 2:
Aligned to the following standards:
FFA.CS-M.; CCSS.W.9-10.2;CCSS.W.9-10.4; CRP.04.;CCSS.RI.9-10.4

Harvest the Benefits

DIRECTIONS

Internet access is not required. Students should read the article, "Harvest the Benefits," in the Fall 2017 issue of *FFA New Horizons* and answer the following questions. Students can also take the quiz online on Kahoot! (account is not required to play). Direct link for the online quiz is <https://play.kahoot.it/#/k/5f7370af-9138-4032-811a-2de6ba90dbff>.

1. How many acres, approximately, is Desert Premium Farms?
 - A. 1, 597
 - B. 2,000
 - C. 2, 087
 - D. 1,000
2. What year was Desert Premium Farms established?
 - A. 2014
 - B. 2012
 - C. 2010
 - D. 2009
3. What is primarily grown on the farm?
 - A. Tomatoes and peppers
 - B. Watermelon
 - C. Iceberg and romaine lettuce
 - D. None of the above
4. How many acres did the farm start with?
 - A. 100
 - B. 150
 - C. 200
 - D. 50
5. Approximately what percentage of leafy greens consumed by Americans is grown at Desert Premium Farms?
 - A. 60
 - B. 50
 - C. 70
 - D. 90
6. What state are the two couples from?
 - A. New Mexico
 - B. Arizona
 - C. Nevada
 - D. California
7. The article states how FFA involvement often enhances members' high school experiences. Think of one of your FFA experiences that has had a significant impact on your life. Answer the following questions.
 - What was the FFA experience?
 - How did it have a significant impact on your life?
 - How can this significant impact also affect others in your life?



NAME: _____

Appendix 3:

Aligned to the following standards:

FFA.PL-B.; FFA.PG-H; 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;

Interview an Alumni Entrepreneur – Getting to Know Their Business

DIRECTIONS

Internet access is required. Students should meet with a member of the local alumni chapter who is a business owner and ask them the following questions to learn more about their business.

1. When did you start your business?
2. Why did you start this particular business?

3. What has been the biggest challenge(s) with your business?

4. What has been your favorite part about owning your own business?

5. Based on your knowledge and skills, what advice would you give students looking to start their own businesses as part of their supervised agricultural experience projects?



NEW HORIZONS

FALL 2017 TEACHING GUIDE



ARTICLE SUMMARY

We Can Do It!

Check out this article about how women can meet the growing demands in the American welding industry. This article discusses the worker shortage in the previously male-dominated welding industry and how females could be a key component in filling that gap.

DISCUSSION QUESTIONS

1. What agricultural careers do you think there are shortages of?
2. Why do you think there is a shortage of workers in the welding industry?
3. Where can you go to find more information about careers in welding?

ACTIVITY

Activity 1: In this activity, students will research the career of welding on AgExplorer. Students will answer questions on topics such as responsibilities, education required and salary. In Part 2 of this activity, students will complete the Career Finder assessment. Please note: Students will need an FFA.org login to access the Career Finder assessment on AgExplorer. If a student is not an FFA member, you can label them as an "Ag Ed Only" student in your roster; this will allow them to get an invitation code, but it will not impact your invoice for membership. Students will need a copy of the handout, "Life of a Welder," (Appendix 4) to complete this activity. Internet access is not required for this activity.

FFA TIP

Invite a local welder from the community to speak about a career as a welder to your classes and/or during a chapter meeting.

SAE TIP

Learn to keep good business records and improve your welding skills, both of which could lead to opportunities for advancement in a welding career or to start your own welding business.

Learning and practicing safe welding procedures will extend the longevity and profitability of your welding SAE and career.

VOCABULARY

Agricultural technology
Mechanical systems
Tulsa Welding School
American Welding Society
Stereotypical

CAREER PATHWAY

Power, Structural and Technical Systems

RELATABLE ARTICLES

"What the Skilled Welder Shortage Means for the U.S. Economy"

<http://roi-ovens.com/2016/01/21/what-the-skilled-welder-shortage-means-for-the-us-economy>

"As Demand for Welders Resurges, Community Colleges Offer Classes"

<https://www.nytimes.com/2015/03/11/business/economy/as-demand-for-welders-resurges-community-colleges-offer-classes.html>

RELATABLE VIDEOS

Look through some of these welding videos from Miller Welding to show your students more about the welding profession.

<https://www.millerwelds.com/resources/video-library>

Check out these resources from Lincoln Electric.

FFA.org/MyJourneyArchiveDocuments/Lincoln%20Electric.zip

APPENDICIES

Appendix 4 – Life of a Welder

Appendix 4 Answer Key – Life of a Welder

STANDARDS ALIGNMENT

FFA PRECEPT

FFA.CS-M.Communication: Effectively interact with others in personal and professional settings.
FFA.CS-N.Decision Making: Analyze a situation and execute an appropriate course of action.
FFA.CS-O.Flexibility/Adaptability: Be flexible in various situations and adapt to change.

COMMON CORE - READING: INFORMATIONAL TEXT

CCSS.ELA-LITERACY.RI.9-10.4 Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the cumulative impact of specific word choices on meaning and

tone (e.g., how the language of a court opinion differs from that of a newspaper).

COMMON CORE - WRITING

CCSS.ELA-LITERACY.W.9-10.2 Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.
CCSS.ELA-LITERACY.W.9-10.4 Produce clear and coherent writing the development, organization, and style are appropriate to task, purpose, and audience.

COMMON CORE - SPEAKING AND LISTENING

CCSS.ELA-LITERACY.SL.9-10.4 Present information, findings, and supporting evidence clearly,

concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.

AFNR CAREER READY PRACTICES

CRP04. Communicate clearly, effectively, and with reason. Career-ready individuals communicate thoughts, ideas and action plans with clarity, whether using written, verbal and/or visual methods.

P21 SKILLS

Communication
Critical Thinking and Problem Solving
Environmental Literacy

WE CAN *Do it!*

How women can meet growing demands in the American welding industry.



In the 1940s, Rosie the Riveter became an American cultural icon, encouraging women to join the workforce in previously male-dominated careers. Working in munitions factories and shipyards, the power of women in the economy was apparent. More than 70 years later, there is a worker shortage in another previously male-dominated career. Now, America needs Whitney the Welder.

Although women make up a small percentage of the welding workforce, there is a high demand for skilled workers. The American Welding Society predicts a shortage of 400,000 workers by 2024, and women can be a key component in filling that gap and changing the face of the welding industry.

"I feel like there are many students who think their future careers have to be a sedentary job, and there isn't a whole lot of diversity and action there," says Sue Kuhl, campus president of Tulsa Welding School. "When you pursue a career in welding, you get to play with fire. You get to make a spark. You get to travel. And, you have a skill that cannot be outsourced."

In fact, the American economy is seeing sharp growth in careers in the

areas of science, technology, engineering and manufacturing. This results in increased demand for workers in these fields. Welding training programs, such as Tulsa Welding School, often host large manufacturing companies on campus to interview students and to offer employment for students immediately upon graduation.

"We have a young lady on campus who wasn't really sure about her future in welding when she started her coursework," Kuhl says. "Physically, she is very tiny and tends to be very girly, which is not your stereotypical welder. Currently, she is halfway through her program and loves it. She can provide for herself and her family after graduation. She just had to realize that all she needed to do was give it a shot."

The National FFA Organization provides

many opportunities for women – and men – interested in welding to "give it a shot," as well. Many ag classes offer welding instruction, and the My Journey platform on **FFA.org** has extensive information and resources for learning more about future careers and training programs in the welding industry. For example, the average annual salary for a full-time welder is a comfortable \$42,267, according to data from **AgCareers.com**. FFA members can also gain hands-on experience by participating in the agricultural technology and mechanical systems career development event with a team. Members can also gain first-hand knowledge by seeking employment or an apprenticeship in welding, and participating in the agricultural mechanics repair and maintenance proficiency awards program.

To learn more about scholarships and career opportunities at Tulsa Welding School, visit **weldingschool.com**.

– By Bev Flatt



“WHEN YOU PURSUE A CAREER IN WELDING, YOU GET TO PLAY WITH FIRE. YOU GET TO MAKE A SPARK. YOU GET TO TRAVEL. AND, YOU HAVE A SKILL THAT CANNOT BE OUTSOURCED.”

– SUE KUHL

NAME: _____

Appendix 4:

Aligned to the following standards:

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.;

Life of a Welder

DIRECTIONS:

Read the article, "We Can Do It!" in the Fall 2017 issue of *FFA New Horizons* and the complete the following activities.
Part 1 – Log on to AgExplorer (www.agexplorer.com) and search the career of welder. (*Search is at the top of the screen*). Click on "welder" and answer the following questions about the career.

1. Identify four responsibilities of a welder:

2. What is the education/training required for this career?

3. What is the average annual full-time salary?

4. What are suggested professional organizations and associations?

5. Click on "See available jobs." Identify two current available jobs for this career. (*Identify the position and where it is located.*)

6. What are two of the related careers?

Part 2: Log on to AgExplorer (www.agexplorer.com) and click on "Career Finder" to take the career assessment. Please note: Students will need an FFA.org login to access the Career Finder on AgExplorer. If a student is not an FFA member, you can label them as an "Ag Ed Only" student on your roster. This will allow the student to get an invitation code, but it will not impact your invoice for membership.

1. What are your top five careers?

2. Out of the top five careers from your Career Finder assessment, which career interests you the most and why?



NEW HORIZONS

FALL 2017 TEACHING GUIDE



ARTICLE SUMMARY

The Future Belongs to Agriculture

This article highlights what the top agricultural-related careers will be in 2020. The article also discusses how the need for agriculturists to grow more food with less will lead to job opportunities in science and research.

DISCUSSION QUESTIONS

1. How does each of the listed careers contribute to producing enough food to feed the world's growing population?
2. Which career on this list interests you and why?

ACTIVITY

Activity 1: In this activity, students will explore a variety of careers on AgExplorer.com. Students will reference information from the article, "The Future Belongs to Agriculture," to complete the worksheet, "Top 5 Careers," (Appendix 5). Internet access is required to complete this activity.

FFA TIP

Host an agricultural career fair at your school. Invite local employers to visit during a homeroom or lunch period where students can dress professionally, hand out their resumes and talk with perspective employers. Have students create their own professional resume using the FFA Resume Generator ©. Click [here](#) to access the generator in My Journey.

SAE TIP

FFA proficiency awards are available to recognize member SAE programs in all of these career fields.

CAREER PATHWAY

Biotechnology Systems
Agribusiness Systems
Power, Structural and Technical Systems
Natural Resource Systems
Food Products and Processing Systems

RELATABLE ARTICLES

"One of the Best Fields for New College Graduates? Agriculture."

<https://nifa.usda.gov/press-release/one-best-fields-new-college-graduates-agriculture>

"Job Outlook Bright for Ag Students"

<http://agsci.psu.edu/futurestudents/careers/in-the-media/outlook>

"Agriculture: Job Growth to Boom Over Next Five Years"

<http://www.cnn.com/2015/05/20/agriculture-fertile-ground-for-job-seekers.html>

RELATABLE VIDEOS

Show your students the archived Virtual Field Trips on AgExplorer.com.

<https://www.agexplorer.com/virtual-field-trip>

APPENDICIES

Appendix 5 – Top 5 Careers

Appendix 5 Answer Key – Top 5 Careers

STANDARDS ALIGNMENT

FFA PRECEPT

FFA.CS-M.Communication: Effectively interact with others in personal and professional settings.
FFA.CS-N.Decision Making: Analyze a situation and execute an appropriate course of action.
FFA.CS-O.Flexibility/Adaptability: Be flexible in various situations and adapt to change.

AFNR

CS.05. Describe career opportunities and means to achieve those opportunities in each of the Agriculture, Food & Natural Resources career pathways.

COMMON CORE - READING: INFORMATIONAL TEXT

CCSS.ELA-LITERACY.RI.9-10.4 Determine the meaning of words and phrases as they are used

in a text, including figurative, connotative, and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language of a court opinion differs from that of a newspaper).

COMMON CORE - WRITING

CCSS.ELA-LITERACY.W.9-10.2 Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.
CCSS.ELA-LITERACY.W.9-10.4 Produce clear and coherent writing that develops, organizes, and style are appropriate to task, purpose, and audience.

COMMON CORE - SPEAKING AND LISTENING

CCSS.ELA-LITERACY.SL.9-10.4 Present information, findings, and supporting evidence clearly,

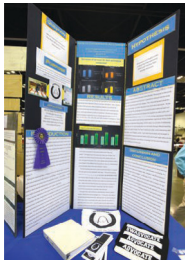
concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.

AFNR CAREER READY PRACTICES

CRP04. Communicate clearly, effectively, and with reason. Career-ready individuals communicate thoughts, ideas and action plans with clarity, whether using written, verbal and/or visual methods.ate to purpose, audience, and task.

P21 SKILLS

Communication
Critical Thinking and Problem Solving
Environmental Literacy



Convention QUIZ:

Can you ace this by-the-numbers quiz about last year's National FFA Convention & Expo?

1. How many American FFA Degrees were awarded?
A. 530
B. 3,780
C. 13,499
D. 188
E. 1,188
F. 64,094
2. How many downloads did the National FFA Convention & Expo app receive?
3. How many members participated in the National Days of Service?
4. What was the official convention and expo attendance?
5. How many members participated in the National FFA Agriscience Fair?
6. How many members qualified as national proficiency finalists?

FIND THE ANSWERS AT
FFANEWHORIZONS.ORG/CONVENTIONQUIZ

THE 90TH NATIONAL FFA CONVENTION & EXPO WILL BE HERE BEFORE YOU KNOW IT! FOR DETAILS, VISIT FFA.ORG/CONVENTION.

AG
CAREERS

**THE FUTURE
BELONGS *to***

AGRICULTURE

**CHECK OUT OUR PREDICTIONS FOR THE
TOP FIVE CAREERS IN AGRICULTURE IN 2020.**

Advances in science and technology are keeping farmers and agriculture professionals on top of their game, and by 2020 there will be even higher demand for skilled individuals in agriculture than there is today. Here are our predicted top five careers in agriculture in 2020.

- 1 DRONE TECHNOLOGISTS.** Show farmers how to increase yields and reduce crop damage using sensors, robotics and images from the air.
- 2 HYDROLOGISTS.** Protect the environment and promote sustainability while helping supply the world with clean, safe water.
- 3 AGRICULTURE COMMUNICATORS.** Share the story of agriculture and engage the public to better understand it. The industry needs to advocate now more than ever.
- 4 FOOD SCIENTISTS.** Improve food products and create new ones using scientific principles that help maintain a wholesome food supply.
- 5 PRECISION AGRICULTURE TECHNOLOGISTS.** Teach farmers how to work better, not harder, by using new technologies that increase crop yields and decrease inputs.

Erika Osmundson, director of marketing and communications for **AgCareers.com**, says while many people perceive agriculture as “old fashioned,” advancements in the use of technology have created crucial, innovative solutions in many aspects of agriculture.

“The increasing demand for agriculture to grow more food with less leads to significant opportunities in science and research to help us meet this demand while preserving our natural resources,” she says.

Also in high demand are research scientists, agronomists, veterinarians, salespeople, finance experts, information technologists, electricians and mechanics – just to name a few.

Visit **AgExplorer.com** for details on these careers and use the career finder assessment to discover which career matches your interests. Also see **page 8** for more on STEM careers.

NAME: _____

Appendix 5:

Aligned to the following standards:

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; CS.05.; CRP.04.;

Top Careers

DIRECTIONS

Internet access is required. Students should log on to www.agexplorer.com and answer the questions below pertaining to the career listed.

Part 1:

1. Hydrologists

- Identify and explain three responsibilities of a hydrologist:
- What education/training is required?
- What is the average annual full-time salary?

2. Agriculture Communicators

- Identify and explain three responsibilities of an agriculture communicator (communications specialist):
- What education/training is required?
- What is the average annual full-time salary?

3. Food Scientists/Technologists

- Identify and explain three responsibilities of a food scientist/technologist:
- What education/training is required?
- What is the average annual full-time salary?

4. Precision Agriculture Technologists/Specialists

- Identify and explain three responsibilities of a precision agriculture technologist/specialist:
- What education/training is required?
- What is the average annual full-time salary?

Part 2:

Log on to www.agexplorer.com and research a career that interests you and complete the following information.

Chosen career:

Identify and explain three responsibilities of this career:

What is the education/training for this career?

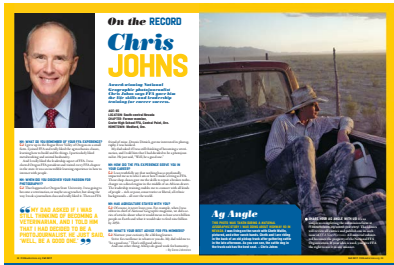
What is the average annual full-time salary?

Why does this career interest you?



NEW HORIZONS

FALL 2017 TEACHING GUIDE



ARTICLE SUMMARY

On the Record: Chris Johns

Chris Jones, a past Oregon FFA state president, describes his journey through FFA into photojournalism and becoming the editor-in-chief for National Geographic, without losing his agricultural education roots.

DISCUSSION QUESTIONS

1. In what ways do you share stories through photos?
2. Why is it important to share the story of agriculture through images?

ACTIVITY

Activity 1: In this activity, students will explore the world of photojournalism. After reading the article, "On the Record: Chris Johns," students will complete the worksheet, "Photojournalism Guide" (Appendix 7). Access to a camera for each student is required to complete this activity.

FFA TIP

If students are interested in sharing their unique agriculture story through photography, have them submit their story to FFA New Horizons, www.ffanewhorizons.org/submit-your-story.

SAE TIP

Check out the proficiency handbook for tips on how to capture great photos for your proficiency award application. Go to page 27 for photo and caption tips.

FFA.org/sitecollectiondocuments/prof_handbook.pdf

VOCABULARY

Photojournalist
Animal husbandry
Turbocharger
Editor-in-Chief

CAREER PATHWAY

Agribusiness Systems

RELATABLE ARTICLES

"Why Does Photography Matter in Agriculture?"

<http://www.askthefarmers.com/why-does-photography-matter-in-agriculture>

"How to be an Agricultural Photographer"

<http://www.countryfile.com/photography/how/how-be-agricultural-photographer>

RELATABLE VIDEOS

Show your students the archived Virtual Field Trips on AgExplorer.com.

<https://www.agexplorer.com/virtual-field-trip>

APPENDICIES

Appendix 6 – Photojournalism Guide

Appendix 7 – Vocabulary Bingo

STANDARDS ALIGNMENT

FFA PRECEPT

FFA.PL-A.Action: Assume responsibility and take the necessary steps to achieve the desired results, no matter what the goal or task at hand.
FFA.PL-F.Continuous Improvement: Accept responsibility for learning and personal growth.
FFA.CS-M.Communication: Effectively interact with others in personal and professional settings.

AFNR

CS.02. Evaluate the nature and scope of the Agriculture, Food, and Natural Resources Career Cluster and the role of agriculture, food, and natural resources (AFNR) in society and the economy.
CS.05. Describe career opportunities and means to achieve those opportunities in each of the Agriculture, Food & Natural Resources career pathways.

COMMON CORE - READING: INFORMATIONAL TEXT

CCSS.ELA-LITERACY.RI.9-10.2 Determine a central idea of a text and analyze its development over the course of the text, including how

it emerges and is shaped and refined by specific details; provide an objective summary of the text.
CCSS.ELA-LITERACY.RI.9-10.3 Analyze how the author unfolds an analysis or series of ideas or events, including the order in which the points are made, how they are introduced and developed, and the connections that are drawn between them.
CCSS.ELA-LITERACY.RI.9-10.4 Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language of a court opinion differs from that of a newspaper).
CCSS.ELA-LITERACY.RI.9-10.7 Analyze various accounts of a subject told in different mediums (e.g., a person's life story in both print and multimedia), determining which details are emphasized in each account.

COMMON CORE - WRITING

CCSS.ELA-LITERACY.W.9-10.3 Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.
CCSS.ELA-LITERACY.W.9-10.4 Produce clear and coherent writing the development, organiza-

tion, and style are appropriate to task, purpose, and audience.

COMMON CORE - SPEAKING AND LISTENING

CCSS.ELA-LITERACY.SL.9-10.2 Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
CCSS.ELA-LITERACY.SL.9-10.4 Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
CCSS.ELA-LITERACY.SL.9-10.5 Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

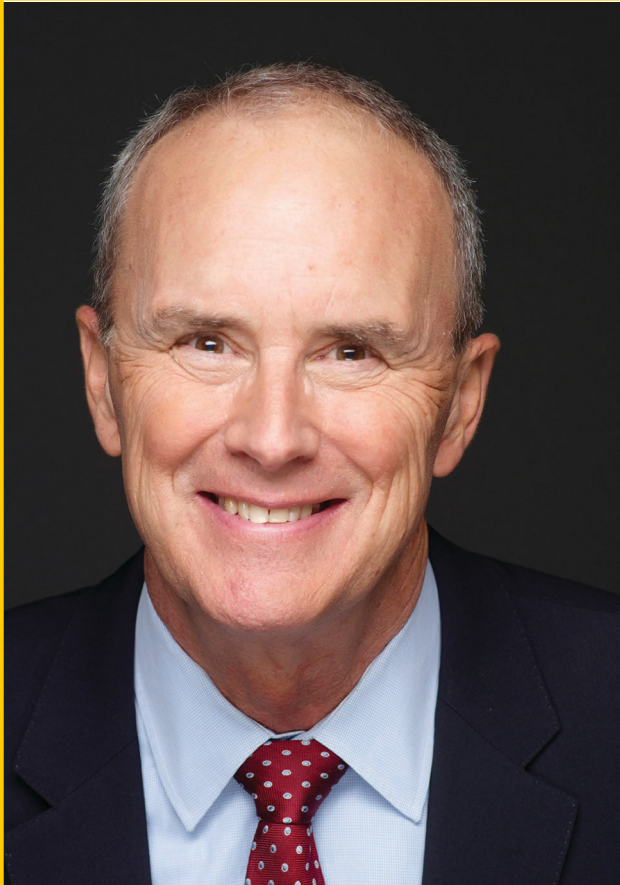
AFNR CAREER READY PRACTICES

CRP04. Communicate clearly, effectively, and with reason. Career-ready individuals communicate thoughts, ideas and action plans with

clarity, whether using written, verbal and/or visual methods
CRP06. Demonstrate creativity and innovation. Career-ready individuals regularly think of ideas that solve problems in new and different ways, and they contribute those ideas in a useful and productive manner to improve their organization.

P21 SKILLS

Communication
Critical Thinking and Problem Solving
Information, Communications, and Technology Literacy
Initiative and Self-direction
Leadership and Responsibility
Media Literacy
Productivity and Accountability
Think Creatively



On the RECORD

Chris

JOHNS

Award-winning National Geographic photojournalist Chris Johns says FFA gave him the life skills and leadership training for career success.

AGE: 65

LOCATION: South-central Nevada

CHAPTER: Former member,
Crater High School FFA, Central Point, Ore.

HOMETOWN: Medford, Ore.

NH: WHAT DO YOU REMEMBER OF YOUR FFA EXPERIENCE?

CJ: I grew up in the Rogue River Valley of Oregon on a small farm. I joined FFA and really liked the ag mechanics classes, learning how to build and fix things. I particularly liked metalworking and animal husbandry.

And I really liked the leadership aspect of FFA. I was elected Oregon FFA president and visited every FFA chapter in the state. It was an incredible learning experience in how to interact with people.

NH: WHEN DID YOU DISCOVER YOUR PASSION FOR PHOTOGRAPHY?

CJ: That happened at Oregon State University. I was going to become a veterinarian, or maybe an ag teacher, but along the way I took a journalism class and really liked it. Then an FFA

friend of mine, Dennis Dimick, got me interested in photography. I was hooked.

My dad asked if I was still thinking of becoming a veterinarian, and I told him that I had decided to be a photojournalist. He just said, "Well, be a good one."

NH: HOW DID THE FFA EXPERIENCE SERVE YOU IN YOUR CAREER?

CJ: I can truthfully say that nothing has so profoundly impacted me as to who I am or how I make a living as FFA. Those shop classes gave me the skills to repair a broken turbo-charger on a diesel engine in the middle of an African desert. The leadership training enables me to connect with all kinds of people – rich or poor, conservative or liberal, all ethnic backgrounds – all over the world.

NH: HAS AGRICULTURE STAYED WITH YOU?

CJ: Of course, it never leaves you. For example, when I was editor in chief of *National Geographic* magazine, we did a series of articles about what it would mean to have seven billion people on Earth and what it would take to feed nine billion by 2050.

NH: WHAT'S YOUR BEST ADVICE FOR FFA MEMBERS?

CJ: Nurture your curiosity. Be a lifelong learner.

Strive for excellence in whatever you do. My dad told me to "be a good one." That's still good advice.

And one other thing: Always do good work for humanity.

– By Gene Johnston

“MY DAD ASKED IF I WAS STILL THINKING OF BECOMING A VETERINARIAN, AND I TOLD HIM THAT I HAD DECIDED TO BE A PHOTOJOURNALIST. HE JUST SAID, ‘WELL, BE A GOOD ONE.’”



Ag Angle

THIS PHOTO WAS TAKEN DURING A NATIONAL GEOGRAPHIC STORY I WAS DOING ABOUT HIGHWAY 93 IN NEVADA. I was living on the ranch with Cheth Wallin, pictured, and other ranch hands. Cheth and I are riding in the back of an old pickup truck after gathering cattle in the late afternoon. As you can see, the cattle dog in the truck cab has the best seat. – Chris Johns

✳ **SHARE YOUR AG ANGLE WITH US!** It's as simple as completing the submission form at FFANewHorizons.org/submit-your-story/. The editors will review all entries and publish one in each issue of *FFA New Horizons*. All material submitted becomes the property of the National FFA Organization. If your idea is used, you give FFA the right to use it in any manner.

NAME _____

Photojournalism Guide

DIRECTIONS

Appendix 6: Aligned to the following standards: FFA.PL-A.; FFA.PL-F.; FFA.CS-M.; CS.02.; CS.05.;CCSS.RI.9-10.2.;CCSS.RI.9-10.3.;CCSS.RI.9-10.4.;CCSS.RI.9-10.7; CCSS.W.9-10.3.;CCSS.SL.9-10.2.; CCSS.SL.9-10.4.; CCSS.SL.9-10.5.;CRP.04.;CRP.06.

Part 1:

Read the article, "On the Record: Chris Johns" in the Fall 2017 issue of *FFA New Horizons*. Before heading out into the field to take pictures, it is important to know what you want to capture. Answer the following reflection questions to gain an idea on what aspects of agriculture in your life are important to share.

1. In what way does agriculture most impact your everyday life?

2. What unique perspective/involvement do you have with agriculture?

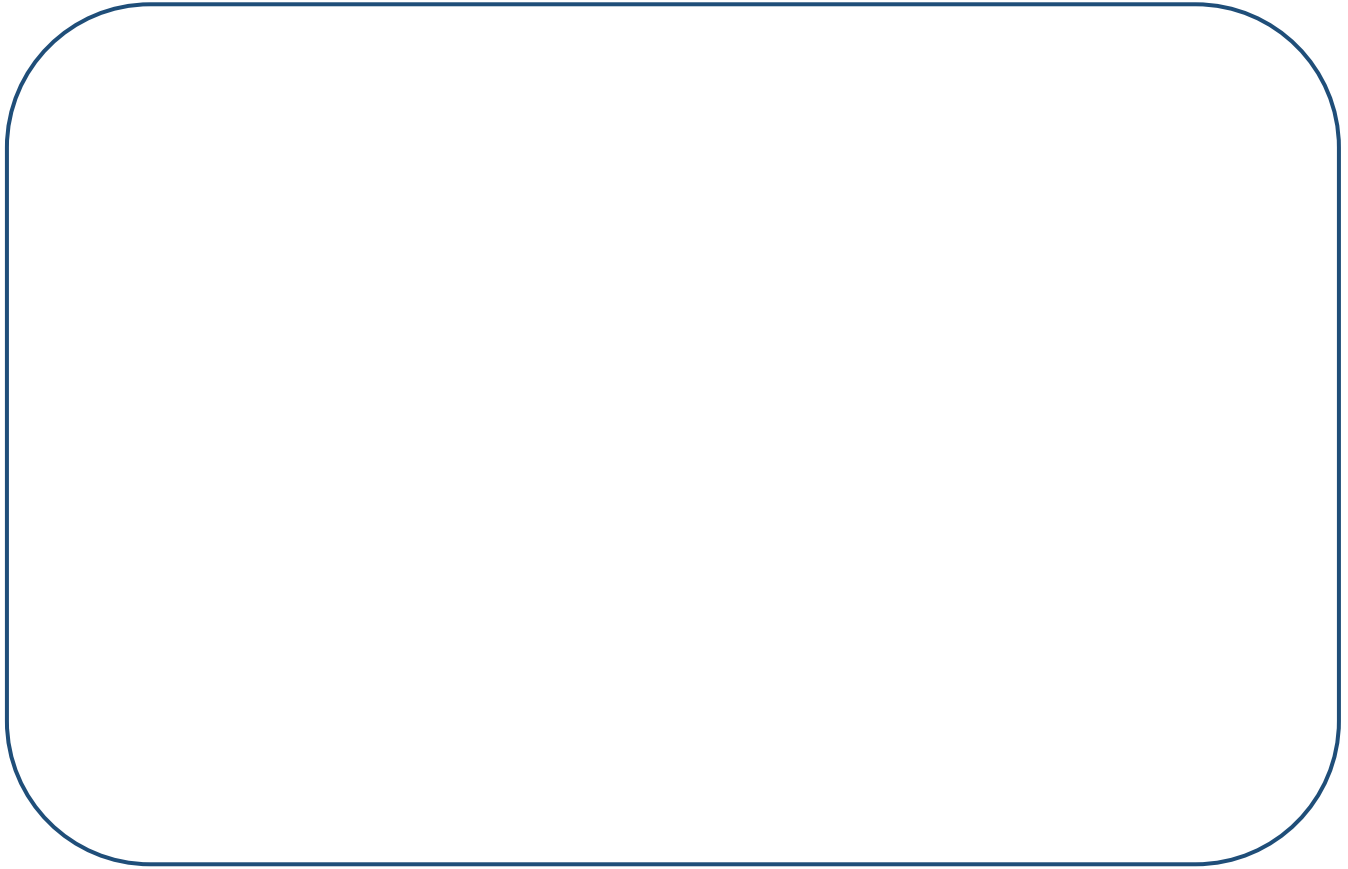
3. What about that perspective/involvement do you want to share with others?

4. What specific item, action or person best represents what you want to share with others? Once completed, use the subject from this question to finish Part 2.

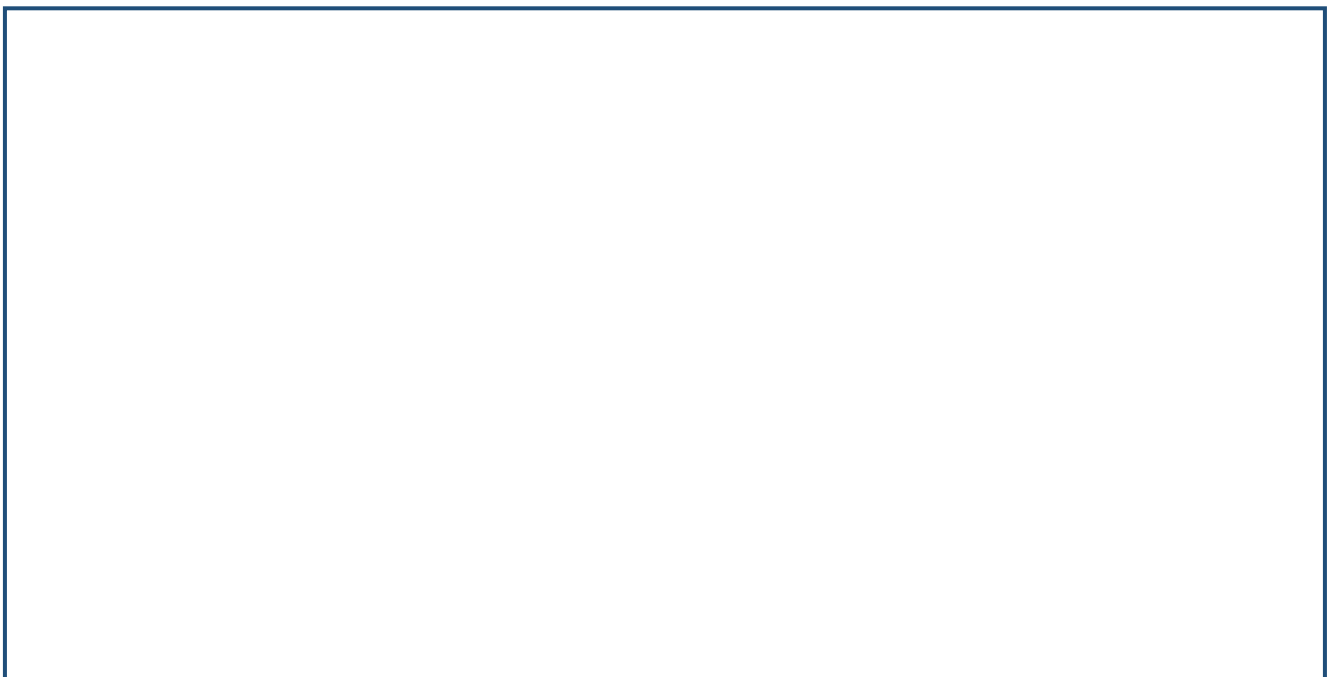
NAME _____

Part 2:

With the subject of your photo now identified, go into the field and capture that perfect picture. The picture must be taken, printed and ready to present in class the next day. Once captured, use the space below to write down the thoughts you want to share about your picture during your one-minute class presentation.

A large, empty rectangular box with rounded corners, outlined in a dark blue line. It is intended for students to write down their thoughts about a picture they have captured.

Add your picture to the space below.

A large, empty rectangular box with sharp corners, outlined in a dark blue line. It is intended for students to add a printed picture of their subject.

NAME: _____

Harvest the Benefits – ANSWER KEY

DIRECTIONS

Internet access is not required. Students should read the article, "Harvest the Benefits," in the Fall 2017 issue of *FFA New Horizons* and answer the following questions. Students can also take the quiz online on Kahoot! (account is not required to play). Direct link for the online quiz is <https://play.kahoot.it/#/k/5f7370af-9138-4032-811a-2de6ba90dbff>.

1. How many acres, approximately, is Desert Premium Farms?
A. 1, 597
B. 2,000
C. 2, 087
D. 1,000
2. What year was Desert Premium Farms established?
A. 2014
B. 2012
C. 2010
D. 2009
3. What is primarily grown on the farm?
A. Tomatoes and peppers
B. Watermelon
C. Iceberg and romaine lettuce
D. None of the above
4. How many acres did the farm start with?
A. 100
B. 150
C. 200
D. 50
5. Approximately what percentage of leafy greens consumed by Americans is grown at Desert Premium Farms?
A. 60
B. 50
C. 70
D. 90
6. What state are the two couples from?
A. New Mexico
B. Arizona
C. Nevada
D. California
7. The article states how FFA involvement often enhances members' high school experiences. Think of one of your FFA experiences that has had a significant impact on your life. Answer the following questions.
 - What was the FFA experience?
 - How did it have a significant impact on your life?
 - How can this significant impact also affect others in your life?

Answers will vary.

NAME: _____

Appendix 4:

Aligned to the following standards:

FFA.CS-M.; CCSS.RI.9-10.4.;CCSS.W.9-10.2;CCSS.W.9-10.4;CCSS.SL.9-10.4;

Life of a Welder – ANSWER KEY

DIRECTIONS

Part 1 – Log on to AgExplorer (www.agexplorer.com) and search the career of welder. (*Search is at the top of the screen*). Click on “welder” and answer the following questions about the career.

1. Identify four responsibilities of a welder:

Assemble, install, maintain and repair equipment; read and interpret layout plans and blue prints; complete steel construction; work high in the air, underwater or in a shop setting; support company safety and continuous improvement programs; inspect, maintain, troubleshoot and repair equipment; utilize arc, oxygen/acetylene, MIG, TIG and plasma methods to safely perform welding and cutting functions; position and secure work piece using hoist, crane, wire and banding machine or hand tools; maintain records of maintenance activities.

2. What is the education/training required for this career?

A high school diploma; in many cases, a welding certification is required.

3. What is the average annual full-time salary?

\$42, 267

4. What are suggested professional organizations and associations?

American Welding Society, United Association of Journeymen and Apprentices, Welding Research Council

5. Click on “See available jobs.” Identify two current available jobs for this career. (*Identify the position and where it is located.*)

Answers will vary.

6. What are two of the related careers?

Carpenter/Laborer, Hydraulic Technician, Maintenance/Service Technician, Heavy Equipment Operator/Forklift Operator

Part 2 - Log on to AgExplorer (www.agexplorer.com) and click on “Career Finder” to take the career assessment. Please note: Students will need an FFA.org login to access the Career Finder on AgExplorer. If a student is not an FFA member, you can label them as an “Ag Ed Only” student on your roster. This will allow the student to get an invitation code, but it will not impact your invoice for membership.

1. What are your top five careers?

Answers will vary.

2. Out of the top five careers from your Career Finder assessment, which career interests you the most and why?

Answers will vary.

NAME: _____

Appendix 5:

Aligned to the following standards:

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;CS.05.;CRP.04.;

Top Careers – ANSWER KEY

DIRECTIONS

Internet access is required. Students should log on to www.agexplorer.com and answer the questions below pertaining to the career listed.

Part 1:

1. Hydrologists

- Identify and explain three responsibilities of a hydrologist:
Research the movement and impacts of water in the environment; supervise field activities/research Trials; oversee groundwater flow and transport modeling in the environment. See page 3 for more possible answers.
- What education/training is required?
A bachelor's degree in biology or a related field, such as earth science, geology, chemistry or environmental science/engineering, is required. Positions that are research-focused require a master's or doctorate degree.
- What is the average annual full-time salary? \$59,496.00

2. Agriculture Communicators

- Identify and explain three responsibilities of an agriculture communicator (communications specialist): Prepare schedules and organize meetings and interviews; write and design company literature; create effective communication strategies. See page 3 for more possible answers.
- What education/training is required? A bachelor's degree in agricultural communications, agricultural marketing, agricultural journalism, communications, public relations or related field.
- What is the average annual full-time salary? \$56,000

3. Food Scientists/Technologists

- Identify and explain three responsibilities of a food scientist/technologist: Collaborate with food production staff for quality, safety, labeling, production, handling and distribution of food products; ensure that food-processing areas comply with government regulations; support new product development and/or processes based on consumer feedback. See page 3 for more possible answers.
- What education/training is required? A bachelor's or master's degree in food science or in a related field is needed.
- What is the average annual full-time salary? \$58,000

4. Precision Agriculture Technologists/Specialists

- Identify and explain three responsibilities of a precision agriculture technologist/specialist: Implement actual work of differential global positioning systems; implement variable rate application of lime and nutrients; implement practical application of record keeping and nutrient management plans. See page 3 for more possible answers.
- What education/training is required? A bachelor's degree in agricultural engineering, agronomy or agricultural business is required. Having your certified crop adviser certification may also be required.
- What is the average annual full-time salary? \$54,000

Part 2:

Log on to www.agexplorer.com and research a career that interests you and complete the following information:

Chosen career: Answers will vary.

Identify and explain three responsibilities of this career: Answers will vary.

What is the education/training for this career? Answers will vary.

What is the average annual full-time salary? Answers will vary.

Why does this career interest you? Answers will vary.

More possible answers:

1. Hydrologist: Assess natural attenuation processes in soil and groundwater; perform environmental consulting; design dams, ponds, as well as piping and pumping systems; study water contamination and prevention; predict changes in climates and ecosystems; supervise technicians assisting with your research or field work; prepare reports and documents with findings and recommendations; advise clients on ways they can preserve their water sources.
2. Agriculture communicator/communications specialist: Implement email marketing; ensure positive relationships with clients; write and coordinate the production of printed and electronic marketing and educational materials; research drafts and disseminate press materials to appropriate news media; disseminate association events and activities on social media; assist in the creation of audiovisual aids for staff; serve as a photographer, as needed; manage the media database and news clipping log; update information on company website and social media outlets; develop appealing presentations and speeches for leadership; assist other staff in program areas whenever communications assistance is needed.
3. Food Scientist/Technologist: Research products, markets and technology to improve existing brand/product offering, ensure quality and safety of food products; adhere to federal compliance requirements; develop samples/prototypes of new products; modify existing products to create more marketable products; develop specifications for product production labeling; compile cost analysis information; maintain accurate records to ensure smooth start-up for new product production processes.
4. Precision Agriculture Technologists/Specialist: Assist in marketing precision agriculture program to producers; network with local government and extension leaders; participate in meetings within sales area; provide technical service and recommendations to patrons; assist customers in installing and calibrating their precision equipment; provide training for other retail employees in precision agriculture; assist in handling customer concerns and complaints; interpret satellite remote sensing to identify and map field variability; prepare fertility, fungicide and seeding maps and recommendations; use GPS and soil test zones; locate fields and perform soil sampling duties in field; provide agronomic services in field using scouting apps or software; understand and participate in the business plan and strategies.