WINTER 2015 Teaching Guide



In this guide, you will find several activities that accompany articles from the **Winter 2015-2016 issue of *FFA New Horizons***. Additionally, the purpose of the first page is to showcase ways in which agriculture educators can enhance literacy and technology integration within the agricultural education classroom.

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:

accolades
ample
articulate
culmination
derived
elaborately
emulate
endowment
hobbyists
humility
ingenuity
initiative
pasteurized
perseverance
perspectives
petitioning
prevalence
rehabilitating
revelry
ruddy
scarce
totality
utterly
vocation
weaning

VOCABULARY ACTIVITY:

Play Vocab Bingo! Each student should create bingo cards using the words they have learned in a unit, grading period, etc. To play, read the definitions for each word, and if a student has that word they will color that block in. This helps students connect the word and the definition on their own.

STANDARDS COVERED:
L.9-10.4, L.11.12.4
Determine or clarify the meaning of unknown and multiple-meaning words and phrases.

L.9-10.6, L.11-12.6
Acquire and use accurately a range of general academic and domain-specific words and phrases.

TECHNOLOGY INTEGRATION:

"Technology has become part of the educational process, but too often it is separate and not integrated into the learning experience," says Linda Starr in an article for Education World. In her article she provides several suggestions for integrating technology into your classroom every day in small and simple ways. Read more **here**.

LITERACY TIP:

"...literacy involves interpreting, evaluating, and making use of the information in texts, advancing students' literacy skills lies close to the heart of the educational enterprise." (Ippolito, et. al., 2008) Create a "story pie" to help students with sequencing. Cut a large piece of bulletin board paper into a circle and create "slices" from this circle, depending on how many sections you need. Give each group member a wedge and have them write or illustrate their part of the reading (the characters, the problem, etc.). As students review the story, reassemble the pie as they talk.

COMMON CORE TIP:

"Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words." (CCSS.ELA-Literacy.CCRA.R.7) Students are inundated with images daily. To help students interpret and understand images just as they would written text has become imperative. Use a photo or image analysis sheet to guide students through the process of interpreting an image. An example is provided **here**.

LITERACY QUOTES:

"As I see it today, the ability to read awoke in me some long dormant craving to be mentally alive." (Malcolm X)

FINANCIAL LITERACY TIP:

A survey of a group of college students in a financial basics class revealed that "...more than 90 percent wish that they had more financial training earlier in life, preferably in high school." (Clements, 2014) The need for incorporating financial literacy into high school is becoming apparent. To help students understand the role interest plays in income have students find the interest rate a bank pays on a savings account.

REFERENCES:

Clements, Nick. (2014, December 1). It's Time to Teach Financial Literacy in High School. Daily Finance. Retrieved from http://www.dailyfinance.com/2014/12/01/its-time-to-teach-financial-literacy-in-high-school/.

Common Core State Standards Initiative. English Language Arts Standards. College and Career Readiness Anchor Standards for Reading #7. Retrieved from http://www.corestandards.org/ELA-Literacy/CCRA/R/7/.

Ippolito, J., Steele, J., Samson, J. (2008). Introduction: Why Adolescent Literacy Matters Now. Harvard Educational Review, 78. Retrieved from http://hepg.org/her-home/issues/harvard-educational-review-volume-78-issue-1/herarticle/why-adolescent-literacy-matters-now_638.

APPENDICES:

1 The Qs and As
1 KEY The Qs and As
2 Q&A Round 2
3 A Buzz About Bees
3 KEY A Buzz About Bees
4 It's a Bee's Life
5 That's No Plane...That's A Bird!
5 KEY That's No Plane...That's A Bird!



ARTICLE SUMMARY:

Q(uestions) and A(griculture)

In an exclusive interview, U.S. Secretary of Agriculture Tom Vilsack shares his thoughts on the importance of agriculture, the future outlook of careers in agriculture, the role FFA members play in agricultural advocacy, and the agriculture-related challenges facing the United States today.

DISCUSSION QUESTIONS:

1 What was the most surprising information you learned while reading this article? Why?
2 What skills do you think are needed to be the U.S. Secretary of Agriculture?
3 Why are there so many opportunities in agriculture right now?

ACTIVITY:

Activity #1: Using "The Qs and As" worksheet (Appendix 1) students will read the article for comprehension and fact retrieval. They will also develop an elevator speech describing agriculture to someone who knows nothing about it. *No Internet access is needed to complete this activity.*

Activity #2: This activity requires students to identify the person in charge of agriculture in their state and develop questions they would ask if they were given the chance to interview that person. Students will use the "Q&A Round 2" (Appendix 2) worksheet to complete this assignment. *No Internet access is needed to complete this activity.*

FFA TIP:

If students are interested in current issues facing agriculture, have them research the agricultural issues CDE. Hold a mock ag issues event at your chapter and invite parents to see their students share their knowledge of current issues.

SAE TIP:

Since so many opportunities are currently available in agriculture, have students research the area of agriculture that appeals to them the most. Then have them create a presentation about that career area as part of an exploratory supervised agricultural experience.

VOCABULARY:

Adequate
Analyze
Burros
Conservationist
Controversy
Cultivating
Efficiently
Farmland
Forestland
Overgrazed
Rangeland
Suitable

RELATABLE BOOKS, MOVIES AND LINKS:

United States Department of Agriculture: **http://www.usda.gov/wps/portal/usda/usdahome**

RELATABLE ARTICLES:

Employment Opportunities for College Graduates in Food, Agriculture, Renewable Natural Resources, and the Environment **https://www.purdue.edu/usda/employment/**

APPENDICES:

Appendix 1- The Qs and As

Appendix 1 KEY- The Qs and As

Appendix 2 – Q&A Round 2

STANDARDS ALIGNMENT:

AFNR Cluster Skills
CS.01. Analyze issues, trends, technologies.

FFA Precept
FFA.PL-A.Action: Assume responsibility.

FFA.PL-E.Awareness: Understand personal vision, mission and goals.

FFA.PG-J.Mental Growth: Embrace cognitive and intellectual development.

FFA.CS-M.Communication: Effectively interact with others.

FFA.CS-N.Decision Making: Analyze a situation and execute an appropriate course of action.

Common Career Technical Core
AG1 Analyze issues, trends, technologies.

NASDCTEc
AGC10.03 Compare and contrast issues affecting the AFNR industry.

Common Core-Reading: Informational Text
CCSS.ELA-Literacy.RI.9-10.4 Determine the meaning of words and phrases.

Common Core-Writing
CCSS.ELA-Literacy.W.9-10.1 Write arguments to support claims.

CCSS.ELA-Literacy.W.9-10.2 Write informative/explanatory texts.

Common Core-Speaking and Listening
CCSS.ELA-Literacy.SL.9-10.4 Present information, findings, and supporting evidence.

Common Core-Math Practices
MP2 Reason abstractly and quantitatively.

MP3 Construct viable arguments.

MP5 Use appropriate tools strategically.

MP6 Attend to precision.

AFNR Career Ready Practices
CRP.02. Apply appropriate academic and technical skills.

CRP.04. Communicate clearly, effectively, and with reason.

CRP.05. Consider the environmental, social and economic impact of decisions.

CRP.08. Utilize critical thinking to make sense of problems.

P21 Skills
Financial, Economic, Business, and Entrepreneurial Literacy

Information, Communications, and Technology Literacy

Global Awareness

Q(UESTIONS) AND A(GRICULTURE)

A conversation with U.S. Secretary of Agriculture Tom Vilsack



As U.S. Secretary of Agriculture, Tom Vilsack knows the importance of our farm, food and fiber industry. The U.S. Department of Agriculture (USDA) oversees the American farming and agriculture industry, from helping farmers secure new domestic and foreign markets for their products to inspecting food to ensure its safety for American consumers.

Secretary Vilsack understands the important role FFA members can play in securing a strong future for our industry. He recently sat down to share some of his thoughts about the next generation of agriculture leaders (you!) and a few tips for career planning. Read on for our exclusive interview with Secretary Vilsack.



NAME: Tom Vilsack

POSITION: 30th U.S. Secretary of Agriculture

TENURE: 7 years, appointed by President Barack Obama in 2009

ORIGINALLY FROM: Pittsburgh, Pa.

EDUCATION: B.A. in History from Hamilton College and a law degree from Albany Law, both in New York

CAREER PATH: Served two terms as Governor of Iowa, in the Iowa Senate, and as the mayor of Mt. Pleasant, Iowa

QUESTION: When you think about the next generation of farmers, ranchers, foresters and other agriculture professionals, what are you the most excited about?

ANSWER:

The enormity of opportunity. Obviously someone has to grow, raise and harvest our food, but think about everything that goes into that: the research, the engineering, the marketing, the long-term planning, the processing and packaging, the selling of the product itself. The future of agriculture is going to be as diverse as agriculture itself – there are opportunities for young men and young women, veterans, retirees, people brand new to farming. We recently put out a report that suggests there are more new jobs than there are new college grads to take them. That creates huge opportunities for FFA members who have the advantage of an early understanding and appreciation for agriculture. You have to think about the entire field – not just farming, but all of the parts that go into getting the food from the farm to your plate. Each part is an employment opportunity.

Q: What can FFA members do to positively impact public perception of agriculture?

A:

FFA members need to have the totality of the message down, the elevator speech – how would you describe agriculture if you had just 30 seconds? I think FFA members are extraordinarily articulate and can create opportunities to tell the story of agriculture in its many forms. Absent a better education for consumers, I think the American public misses a lot of this story and perhaps does not appreciate our farmers and ranchers as much as they should.

Q: FFA members are very passionate about the issues of nutrition and food insecurity. Can you talk a little bit about your work on these challenges?

A:

We have two principal threats to the overall security and advancement of our country. One is the obesity epidemic. The other is the fact that today, despite nutrition assistance programs, we have 17 million young people who live in food insecure homes. It's important for USDA, in concert with organizations like FFA, to continue to support a variety of programs and efforts to improve food security in this country. We have to improve early health and early understanding of nutrition. We have to make sure families make good nutritious choices. We have to minimize the prevalence and impact of food waste. FFA is a good partner in all of this work.

One major focus has been revising the school meal options so more healthy foods are offered and available at schools.



COURTESY OF THE U.S. DEPARTMENT OF AGRICULTURE

U.S. Secretary of Agriculture Tom Vilsack meets with FFA leadership.

Ninety-seven percent of schools are now serving a variety of healthier foods, which is a huge opportunity both to establish those healthy habits at an early age and for farmers, who are the ones ultimately responsible for meeting the demand for those foods – fruits, vegetables, whole grains, dairy and protein – in schools and at home.

We're beginning to see some early signs that kids are getting healthier as a result. Healthier kids do better in school, which has long-term implications for their ability to learn, be productive and get a good job, and live longer, healthier lives. I'm proud of that.

Q: What is the best career advice you've received?

A:

Find a vocation where time doesn't matter – where you're so focused and excited about what you're doing that you don't spend much time looking at the clock. Once you find that vocation, pursue excellence. You'll feel good about what you're doing, and the money will come. Too many people spend a long time, sometimes their entire lives, trying to figure that out. I think many FFA members have already discovered that in agriculture, which makes them very fortunate.

Q: What's your favorite part of being Secretary of Agriculture?

A:

The opportunity to learn and see this country and our world from many different perspectives. Most people probably don't understand the amount of USDA investment in each state to support the work of farmers and ranchers, to work with them as they implement good conservation practices; to conduct cutting-edge research; and to support rural and economic development in communities across rural America. I am constantly impressed and amazed by the ingenuity and creativity of Americans and American agriculture. Being able to see that in action is pretty incredible.

Tom Vilsack is the nation's 30th Secretary of Agriculture and holds an honorary American FFA degree. To learn more about USDA's work and services for young farmers, visit usda.gov/results.

ABOUT THE U.S. DEPARTMENT OF AGRICULTURE

The U.S. Department of Agriculture (USDA) provides leadership on food, agriculture, natural resources, rural development, nutrition, and related issues based on public policy, the best available science, and effective management.

USDA works to:

- Support the American agricultural economy to strengthen rural communities.
- Protect and conserve our natural resources.
- Provide a safe, sufficient and nutritious food supply for the American people.

For more information about USDA resources for new and beginning farmers, check out **usda.gov/newfarmers**.

USDA

Name: _____

The Qs and As

Directions: Complete this worksheet using the *FFA New Horizons* article "Q(uestions) and A(griculture)."

Part 1:

1. According to U.S. Secretary of Agriculture Vilsack, how can FFA members positively impact the public perception of agriculture?
    A. Be able to describe agriculture in a short amount of time.
    B. Keep quiet so as to not upset anyone.
    C. Talk only about production farming.
    D. Write a newspaper editorial about agricultural practices.

2. Which of the following does Secretary Vilsack see as a principle threat to the United States?
    A. A decrease in agriculture knowledge.
    B. A shortage of farmers.
    C. Food insecurity.
    D. Lack of opportunity.

3. What career advice does Secretary Vilsack provide?
    A. Find a career with normal hours.
    B. Find a job where you only need to do the bare minimum.
    C. Search for a career with a high salary.
    D. Search for a career where time does not matter.

4. The acronym USDA stands for United States Division of Agriculture.
    A. True
    B. False

5. Nutrition and rural development are areas the USDA works to support.
    A. True
    B. False

Part 2:

How would you describe agriculture to someone who knows nothing about it, except for what they learn from social media? (You should be able to say this in 30 seconds or less.) *Use the space below to draft your answer.*

Appendix 1
Aligned to the following standards:
CS.01; FFA.PL-A.; FFA.PL-E.; FFA.PG-J.; FFA.CS-M.;FFA.CS-N.; AG1; AGC10.03; RI.9-10.4; W.9-10.1; W.9-10.2; SL.9-10.4; MP2; MP3; MP5; MP6; CRP.02; CRP.04; CRP.05; CRP.08

Name: _____

The Qs and As KEY

Directions: Complete this worksheet using the *FFA New Horizons* article "Q(uestions) and A(griculture)."

Part 1:

1. According to U.S. Secretary of Agriculture Vilsack, how can FFA members positively impact the public perception of agriculture?
   - **A. Be able to describe agriculture in a short amount of time.**
   - B. Keep quiet so as to not upset anyone.
   - C. Talk only about production farming.
   - D. Write a newspaper editorial about agricultural practices

2. Which of the following does Secretary Vilsack see as a principle threat to the United States?
   - A. A decrease in agriculture knowledge.
   - B. A shortage of farmers.
   - **C. Food insecurity.**
   - D. Lack of opportunity.

3. What career advice does Secretary Vilsack provide?
   - A. Find a career with normal hours.
   - B. Find a job where you only need to do the bare minimum.
   - C. Search for a career with a high salary.
   - **D. Search for a career where time does not matter.**

4. The acronym USDA stands for United States Division of Agriculture.
   - A. True
   - **B. False**

5. Nutrition and rural development are areas the USDA works to support.
   - **A. True**
   - B. False

Part 2:

How would you describe agriculture to someone who knows nothing about it, except for what they learn from social media? (You should be able to say this in 30 seconds or less.) *Use the space below to draft your answer.*

Answers will vary.

Appendix 1
Aligned to the following standards:
CS.01; FFA.PL-A.; FFA.PL-E.; FFA.PG-J.; FFA.CS-M.;FFA.CS-N.; AG1; AGC10.03; RI.9-10.4; W.9-10.1; W.9-10.2; SL.9-10.4; MP2; MP3; MP5; MP6; CRP.02; CRP.04; CRP.05; CRP.08

Name: _____

Q and A Round 2

Directions: Find out who is in charge of agriculture in your state, and in the space provided on this worksheet develop questions you would ask him or her if you had the opportunity to conduct an interview. *Be sure to ask questions that are important to you and the future of agriculture!*

The person in charge of agriculture in my state is _____.

Question 1:

Question 2:



Question 3:

Question 4:

Question 5:

Question 6:

Appendix 2
Aligned to the following standards:
CS.01; FFA.PL-A.; FFA.PL-E.; FFA.PG-J.; FFA.CS-M.;FFA.CS-N.; AG1; AGC10.03; RI.9-10.4; W.9-10.1; W.9-10.2; SL.9-10.4; MP2; MP3; MP5; MP6; CRP.02; CRP.04; CRP.05; CRP.08

WINTER 2015 Teaching Guide

FFA NEW HORIZONS



ARTICLE SUMMARY:

"What's All the Buzz About?"

Honeybees are essential to agriculture. Not only do humans need them to act as pollinators, we also use the honey they produce for many purposes. The production of honey is on the rise, and that brings a significant economic impact as well.

DISCUSSION QUESTIONS:

1 If honey bees disappeared, what impact would that have on our world?
2 What was the most surprising thing you learned about honey? Why?
3 What skills do you think are important to be a beekeeper?

ACTIVITY:

Activity #1: Students will use information gleaned from the article to complete the "A Buzz About Bees" (Appendix 3) crossword puzzle. *No Internet access is needed to complete this activity.*

Activity #2: Activity #2: Students will delve further into the world of bees by researching the honey bee life cycle and the caste system of the hive. They will use the worksheet "It's a Bee's Life" (Appendix 4) to record their findings. Suggested websites and resources are also provided in the worksheet, which can also serve as a key for the worksheet. *Internet access is needed to complete this activity.*

FFA TIP:

As part of an FFA activity or chapter meeting, take students to a local beekeepers' apiary or bring in a local member of the beekeepers' association to speak. Beekeeper association members are used to giving talks to young students, so their presentations can be quite entertaining.

SAE TIP:

For students interested in beekeeping, set them up with a mentor using a contact from your local beekeepers' association. Hobbyist beekeepers can be found everywhere, and most are willing to help young people get involved. Students can assist the beekeeper as their SAE, and maybe eventually they will begin to keep a hive of their own.

VOCABULARY:
pollination
pollen
essential
derived
legumes
hobbyists
allergies
sustain
pinocembrin
pasteurized
antimicrobial

CAREER PATHWAYS:
Animal Systems

RELATABLE BOOKS, MOVIES AND LINKS:
Honey Bee Dance Language Tutorial **http://www.cals.ncsu.edu/entomology/apiculture/dance_tutorial.html**

How It's Made: Honey **https://youtu.be/iT6lQx26eHk**

RELATABLE ARTICLES:
Building Bees **http://ngm.nationalgeographic.com/2015/05/building-bees/mann-text**

Bee Deaths Reversal: As Evidence Points Away From Neonics As Driver, Pressure Builds To Rethink Ban **http://www.forbes.com/sites/jonentine/2014/02/05/bee-deaths-reversal-as-evidence-points-away-from-neonics-as-driver-pressure-builds-to-rethink-ban/**

APPENDICES:
Appendix 3 – A Buzz About Bees

Appendix 3 KEY – A Buzz About Bees

Appendix 4 – It's a Bee's Life

STANDARDS ALIGNMENT:

AFNR Cluster Skill
CS.06. Analyze the interaction among AFNR systems.

FFA Precept
FFA.PL-A.Action: Assume responsibility.

FFA.PG-J.Mental Growth: Embrace cognitive and intellectual development.

Common Career Technical Core
AG6 Analyze the interaction among AFNR systems.

Common Core-Speaking and Listening
CCSS.ELA-Literacy.SL.9-10.1 Initiate and participate effectively in a range of collaborative discussions.

Common Core-Science & Technical Subjects
CCSS.ELA-Literacy.RST.9.10.7 Translate quantitative or technical information.

CCSS.ELA-Literacy.RST.9.10.9 Compare and contrast findings

Common Core-Math Practices
MP3 Construct viable arguments.

MP5 Use appropriate tools strategically.

AFNR Career Ready Practices
CRP.02. Apply appropriate academic and technical skills

CRP.04. Communicate clearly, effectively, and with reason.

CRP.05. Consider the environmental, social and economic impact of decisions.

CRP.07. Employ valid and reliable research strategies.

CRP.08. Utilize critical thinking to make sense of problems.

CRP.11. Use technology to enhance productivity.

P21 Skills
Critical Thinking and Problem Solving

Information, Communications, and Technology Literacy

What's All the Buzz About?

Honeybees have two main jobs – pollination and producing honey



Honeybees are tiny little creatures that seem to spend most of their time buzzing around the pool and garden. But do you know the important work they do?

The two most important roles of a honeybee are pollinating and making honey. Honeybees pollinate plants by carrying pollen from one plant to the next.

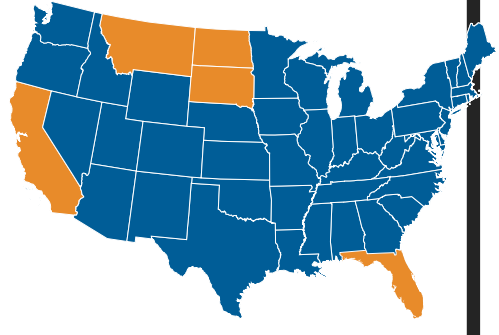
Honeybees are essential for pollination of many fruits and vegetables as well as seed crops. Approximately one-third of the total human diet is derived directly or indirectly from insect-pollinated plants (fruits, legumes and vegetables), and the USDA has estimated that 80 percent of this insect crop pollination is accomplished by honeybees.

Luckily, we also get to enjoy the delicious fruits of their labor. In 2014, there were 2.74 million active, honey-producing colonies that produced more than 178.3 million pounds of honey across the U.S. The honey was valued at roughly $385.2 million.

– Melinda Perkins

Top Honeybee States

There are an estimated 120,000 beekeepers across the country. Most are hobbyists, while commercial producers (those with 300 or more hives) represent about 2,000 of the total.



Top bee states are North Dakota, California, South Dakota, Florida and Montana.

19%

Honey production increased 19% in 2014.

Source: U.S. Department of Agriculture

The Power of Honey

1 **ALLERGIES:** A tablespoon of local honey each day will help with springtime allergies. The only catch is that the honey needs to be from the same area where you live in order to help with your allergies.

2 **BRAIN FUNCTION:** Honey contains all the necessary ingredients to sustain life, including enzymes, vitamins, minerals and "pinocembrin," which helps improve brain function.

3 **SKIN CARE:** Raw honey that has not been pasteurized helps moisturize your skin and fight aging and bacteria.

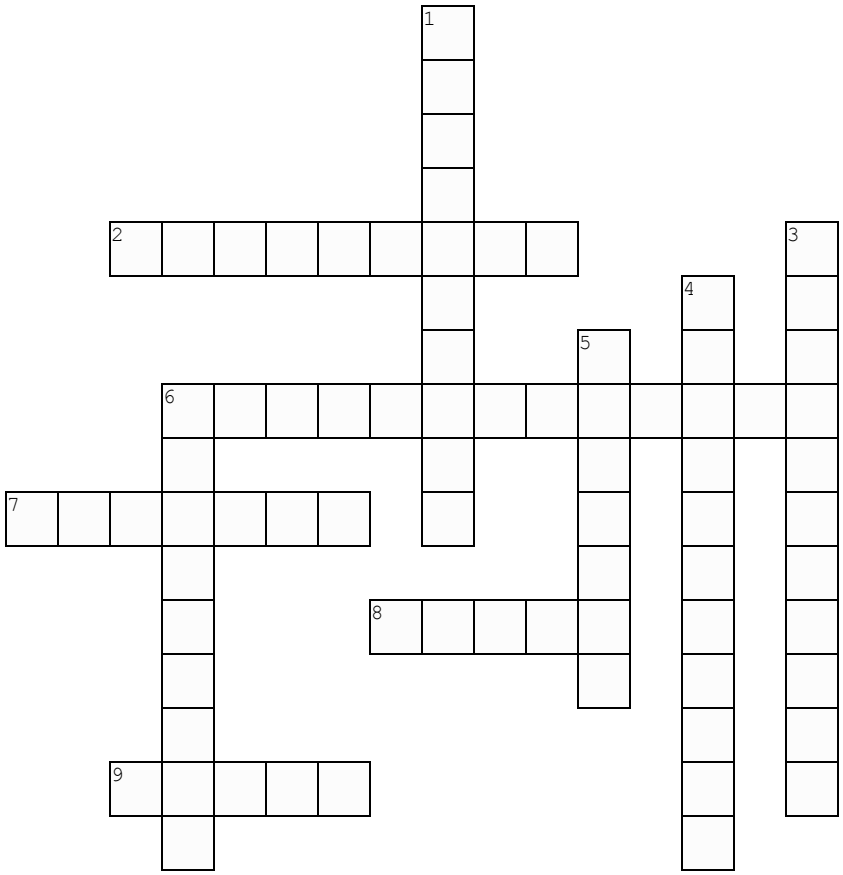
4 **WOUND CARE:** The antimicrobial assets in honey lower your risk for infection when applied to wounds and burns.

5 **RELAXATION:** Honey can calm your nerves and make you ready for restful sleep. Drink a honey and water tea, or add honey to a bowl of oatmeal.

Name: _____

A Buzz about Bees

Directions: Complete the crossword puzzle using information available in the *FFA New Horizons* article "What's All the Buzz About?"



Created on TheTeachersCorner.net Crossword Maker

Down

1. _____ beekeepers have at least 300 hives.
3. The process of transferring pollen between plants.
4. Percent of human diet that is derived from plants pollinated by insects.
5. One of the top bee states.
6. Eating local honey can help with this problem.

Across

2. 80 percent of insect crop pollination is accomplished by _____.
6. This property of honey makes it useful for wounds and infections.
7. In 2014, the honey produced in the U.S. was valued at 385 _____ dollars.
8. Honey contains ingredients that help improve _____ function.
9. Honey can calm you down and help you _____.

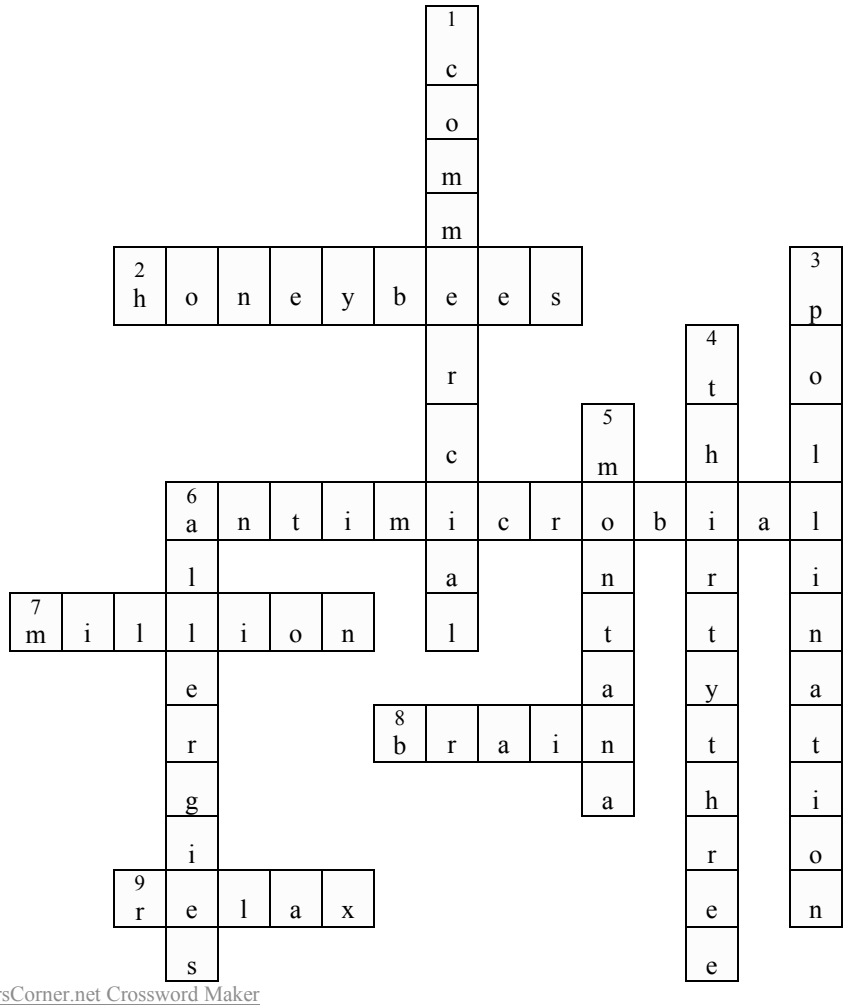
Appendix 3

Aligned to the following standards:
CS.06; FFA.PL-A;FFA.PG-J.; AG6; SL.9-10.1; RST.9.10.7; RST.9.10.9; MP3; MP5; CRP.02; CRP.04; CRP.05; CRP.07;CRP.08; CRP.11

Name: _____

A Buzz about Bees KEY

Directions: Complete the crossword puzzle using information available in the *FFA New Horizons* article "What's All the Buzz About?"



Created on TheTeachersCorner.net Crossword Maker

Down

1. _____ beekeepers have at least 300 hives. (commercial)
3. The process of transferring pollen between plants. (pollination)
4. Percent of human diet that is derived from plants pollinated by insects. (thirtythree)
5. One of the top bee states. (montana)
6. Eating local honey can help with this problem. (allergies)

Across

2. 80 percent of insect crop pollination is accomplished by _____. (honeybees)
6. This property of honey makes it useful for wounds and infections. (antimicrobial)
7. In 2014, the honey produced in the U.S. was valued at 385 _____ dollars. (million)
8. Honey contains ingredients that help improve _____ function. (brain)
9. Honey can calm you down and help you _____. (relax)

Appendix 3
Aligned to the following standards:
CS.06; FFA.PL-A;FFA.PG-J.; AG6; SL.9-10.1; RST.9.10.7; RST.9.10.9; MP3; MP5; CRP.02; CRP.04; CRP.05; CRP.07;CRP.08; CRP.11

Name: _____

It's a Bee's Life

Directions: Complete the following activities using the Internet and other resources available to you.

Suggested Resources

- Honey Bee Life Cycle in Pictures https://www.clemson.edu/extension/county/oconee/programs/beekeeping/Honey_Bee_Life_Cycle_in_Pictures.pdf
- Honey Bee Caste System: http://www.pugetsoundbees.org/honeybees-101/
- The Colony and Its Organization https://agdev.anr.udel.edu/maarec/honey-bee-biology/the-colony-and-its-organization/

Part 1: Honey Bee Life Cycle

Label each stage of the honey bee life cycle and briefly explain what happens in each stage.



Stage: _____

Description:



Stage: _____

Description:



Stage: _____

Description:



Stage: _____

Description:



Stage: _____

Description:

Name: _____

Appendix 4
Aligned to the following standards:
CS.06; FFA.PL-A;FFA.PG-J.; AG6; SL.9-10.1; RST.9.10.7; RST.9.10.9; MP3; MP5; CRP.02; CRP.04; CRP.05; CRP.07;CRP.08; CRP.11

Part 2: Honey Bee Caste System

Research the caste system of honey bees to complete this chart.

Queen Bee	**Worker Bee**	**Drone**
List 5 unique characteristics of queen bees.	*List 5 unique characteristics of worker bees.*	*List 5 unique characteristics of drones.*
1. _____	1. _____	1. _____
2. _____	2. _____	2. _____
3. _____	3. _____	3. _____
4. _____	4. _____	4. _____
5. _____	5. _____	5. _____

1. What would happen to a bee colony if there was no queen?
   _____
   _____
2. What would happen if there were no worker bees?
   _____
   _____
3. What would happen if there were no drones?
   _____
   _____



ARTICLE SUMMARY:

This Job's for the Birds

Anastasia Sturgis has worked at a bird rescue since she was in 10th grade. Her interest in birds has grown from a weekend hobby to an SAE to her future career. She also raises and breeds ducks for conservation purposes. She credits FFA with inspiring her to reach her goals.

DISCUSSION QUESTIONS:

1 Why might so many pet birds need to be rescued?
2 What facts about parrots did you find most interesting? Why?
3 What skills might be useful to work in a bird sanctuary?

ACTIVITY:

The worksheet "That's No Plane...That's A Bird!" (Appendix 5) uses activities that will appeal to multiple learning styles while students retrieve information from the article as well as make inferences and draw conclusions. *No Internet access is needed to complete this activity.*

FFA TIP:

At your next FFA meeting, have members who own various pet birds bring the animals in and share about their experiences. If no members own birds consider a field trip to a bird sanctuary or have a guest speaker bring in various pet birds like parrots and cockatoos so that students can interact with them.

SAE TIP:

For students interested in birds, they can start small with a bird-related SAE. It does not take much room to hatch eggs for conservation programs and many programs will help students get the supplies they need. Students could also offer "bird sitting" to friends and neighbors when they are gone from their homes for extended periods of time.

VOCABULARY:

sanctuary
rehabilitating
aggressive
aviary
conserving
zygodactyls

CAREER PATHWAYS:

Animal Systems

RELATABLE BOOKS, MOVIES AND LINKS:

What is the Best Pet Bird for You? Quiz **http://www.all-pet-birds.com/best-pet-bird.html**

Pets 101- Parrots **https://youtu.be/JER2HiO02nY**

RELATABLE ARTICLES:

Do You Have What It Takes to be an Avian Rescuer? **https://www.petfinder.com/animal-shelters-and-rescues/starting-a-pet-adoption-organization/bird-rescue/**

Evolution of the Enigmatic Eclectus **http://scienceblogs.com/grrlscientist/2008/07/22/evolution-of-the-enigmatic-ecl/**

APPENDICES:

Appendix 5 - That's No Plane... That's A Bird!

Appendix 5 KEY - That's No Plane...That's A Bird!

STANDARDS ALIGNMENT:

AFNR Cluster Skill
CS.05. Describe career opportunities.

FFA Precept
FFA.PL-C.Vision: Visualize the future and how to get there.

FFA.PL-E.Awareness: Understand personal vision, mission and goals.

FFA.PG-J.Mental Growth: Embrace cognitive and intellectual development.

Common Career Technical Core
AG5 Describe career opportunities.

NASDCTEc
AGC09.02 Select, research and examine critical aspects of career opportunities.

Common Core-Reading: Informational Text
CCSS.ELA-Literacy.RI.9-10.2 Determine a central idea of a text.

CCSS.ELA-Literacy.RI.9-10.4 Determine the meaning of words and phrases.

Common Core-Writing
CCSS.ELA-Literacy.W.9-10.1 Write arguments to support claims.

Common Core-Speaking and Listening
CCSS.ELA-Literacy.SL.9-10.1 Initiate and participate effectively in a range of collaborative discussions.

Common Core-Literacy in Science & Technical Subjects: Writing
CCSS.ELA-Literacy.WHST.9.10.4 Produce clear and coherent writing.

AFNR Career Ready Practices
CRP.02. Apply appropriate academic and technical skills.

CRP.04. Communicate clearly, effectively, and with reason.

CRP.10. Plan education and career path aligned to personal goals.

P21 Skills
Critical Thinking and Problem Solving

Initiative and Self-direction



THIS JOB'S FOR THE BIRDS

Orlando FFA member helps rehabilitate threatened birds and wildlife







Anastasia Sturgis works with endangered birds for her FFA supervised agricultural experience program.

Anastasia Sturgis of the Orlando-Colonial FFA Chapter in Florida has an unusual weekend hobby. Instead of hitting the mall or the beach like many teenage girls, Anastasia spends her Saturdays caring for rescued parrots, macaws and cockatoos at the Seminole County Parrot Rescue & Sanctuary in Geneva, Fla.

Anastasia, a 2015 graduate from Colonial High School, started an internship at the parrot rescue center in 10th grade, and now she plans to make a career out of rehabilitating endangered wildlife. Her interest in birds started when she was only 5 years old.

"I've always loved the zoo and all kinds of animals. Steve Irwin is my hero, and I spent every weekend growing up watching *Crocodile Hunter*," Anastasia says. "When I was 5, my parents bought me a duckling, and I raised him. Then I got a gecko and two rescued cockatiels, one of which had an injured wing. Working with those two little guys sparked my interest in the pet bird trade."

FRIEND OF ANIMALS

Because she lives in a residential area, Anastasia didn't have space to keep many animals. But that didn't stop her.

"In middle school, I joined 4-H and started getting more animals and keeping them at a friend's farm," she says. "I went there every day to take care of them."

Anastasia discovered the internship opportunity at the parrot rescue center via social media after her freshman year of high school, and she jumped at the chance to get more hands-on experience with wildlife. Ellen Sherman, owner of the rescue center, invited her out to look around. The property is home to more than 100 parrots, as well as pigeons, crows, tortoises and exotic birds.

"I got to meet all her birds and learn their stories," Anastasia recalls. "A lot of the birds are sweet and calm, but a few are aggressive because they've been neglected or abused. Nearly all of them are former pets."

Anastasia's favorite residents are the Eclectus parrots – small, colorful parrots known among bird enthusiasts for their sexual dimorphism, a distinct difference in the appearance of males and females of the same species.

"The females are bright ruby red with purple tips, and the males are bright emerald green with blue and orange accents," Anastasia explains. "For a long time, researchers thought they were two completely different birds."

Some of the resident birds can talk, including a crow named Hoppy who grew up around parrots and learned to talk like they do.

"He jumps around and says, 'Hi, Hoppy!'," Anastasia says, laughing. "He's so funny."

Sherman says Anastasia has been a big help with cleaning up after the birds and interacting with them.

"She's a smart girl who picks up on things quickly, and she's not afraid of hard work," Sherman says. "It's hard to find young people like her who are so on top of things. Anastasia has a mind that absorbs everything, so she will be successful at whatever career she chooses."



FFA INVOLVEMENT

Colonial High School is fortunate to have a large agriculture lab where Anastasia and her dad, Gil, built an aviary. She keeps her own breeding pair of wood ducks, a pair of Mandarins and a pair of pintail ducks at the aviary.

"I'm working on breeding them, and my goal is to sell them," she says. "People enjoy having them just for pleasure but they also like conserving the breed. Wood ducks used to be endangered."

In 2014, Anastasia won the small animal production and care proficiency at the National FFA Convention & Expo. She is now attending the University of Florida and study Wildlife Ecology and Conservation, and she credits FFA for inspiring her to reach for her goals.

"My FFA advisor, Timothy App, arranged a field trip for me to visit the University of Florida and meet with the dean of the Wildlife Ecology and Conservation Department," she says. "He has always pushed me to step outside my comfort zone. The public speaking and other FFA experiences I've had are already helping me reach my career goals."

Anastasia's experience at the parrot rescue center has also been valuable.

"I've learned how to handle the birds and catch them safely," she says. "When we have new birds come in, they are nervous and scared, so it's important to know how to handle them."

The best thing about working with wildlife, Anastasia says, is changing an animal's life for the better.

"I love it when we get an animal from bad circumstances and we're able to get them back on track both nutritionally and personality-wise," she says. "To see those animals enjoy themselves, be happy and get a second chance at life is an amazing thing."

– Jessica Mozo

MORE ONLINE

See more photos of the birds Anastasia helps rehabilitate at FFAnewhorizons.org.

SIX FUN FACTS ABOUT PARROTS

1 There are more than 300 species of parrots worldwide – ranging in length from about 4 inches up to 40 inches.

2 Some species of parrots can live for more than 80 years in the wild.

3 In the wild, parrots live in flocks and communicate with loud screeching and squawking sounds.

4 All parrots are zygodactyls. This means they have four toes on each foot, two pointing forward and two projecting backward. Their sharp claws allow them to climb and perch on trees.

5 Most species of parrots in the wild build their homes in holes in trees, rock cavities, tunnels in the ground and termite mounds.

6 Only parrots kept as pets mimic people and noises. African Greys are the best mimics of human speech. African Grey parrots have also been taught to count, identify objects and speak short sentences in response to questions.

Name: _____

That's No Plane…That's A Bird!

Directions: Complete this worksheet using the *FFA New Horizons* article "This Job's For the Birds,"

1. List three types of birds found at the sanctuary Anastasia works.

2. What is Anastasia studying in college? How did her internship and SAE help her decide on this career?

3. In addition to Anastasia's internship at the bird sanctuary, what other bird-related activities are a part of her SAE?

4. What is special about Eclectus parrots?

5. What is a zygodactyl?

6. Why are some birds at the sanctuary aggressive?

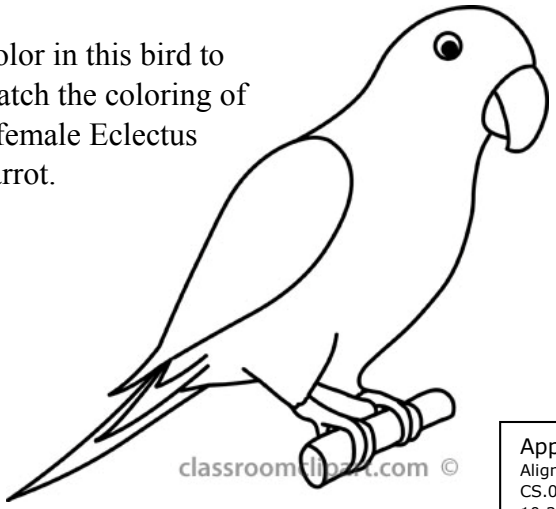
7. What parrot species is the best human mimic? _____

8. Parrots range in length from _____ inches to _____ inches.

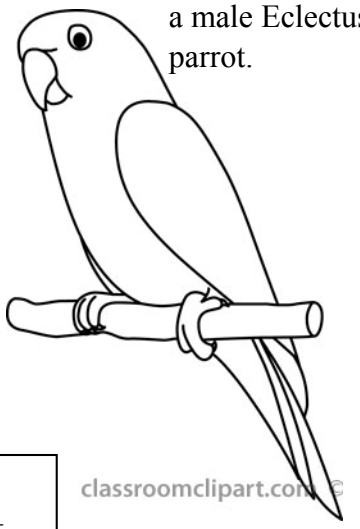
9. Some parrots live in tunnels in the ground. (True or False)

10. Crows cannot mimic human speech. (True or False)

Color in this bird to match the coloring of a female Eclectus parrot.



Color in this bird to match the coloring of a male Eclectus parrot.



Appendix 5
Aligned to the following standards:
CS.05; FFA.PL-C; FFA.PL-E; FFA.PG-J.; AG5; AGC09.02; RI.9-10.2; RI.9-10.4; W.9-10.1; SL.9-10.1; WHST.9.10.4; CRP.02; CRP.04; CRP.05; CRP.10

Appendix 5
Aligned to the following standards:
CS.05; FFA.PL-C; FFA.PL-E; FFA.PG-J.; AG5; AGC09.02; RI.9-10.2; RI.9-10.4; W.9-10.1; SL.9-10.1; WHST.9.10.4; CRP.02; CRP.04; CRP.05; CRP.10

Name: _____

That's No Plane…That's A Bird! KEY

Directions: Complete this worksheet using the *FFA New Horizons* article "This Job's For the Birds"

1. List three types of birds found at the sanctuary Anastasia works.
   Parrots, macaws, cockatoos, pigeons, crows

2. What is Anastasia studying in college? How did her internship and SAE help her decide on this career?

   Wildlife rehabilitation; She was always interested in birds, but she learned the correct way to handle them and how to make them healthy and happy again.

3. In addition to Anastasia's internship at the bird sanctuary, what other bird-related activities are a part of her SAE?
   Raises and breeds wood ducks, Mandarins and pintail ducks.

4. What is special about Eclectus parrots?

   They are sexual dimorphism. The males and females have very different coloring.

5. What is a zygodactyl?
   Four toes on a foot; two pointing forward and two pointing backward.

6. Why are some birds at the sanctuary aggressive?

   They were neglected or abused.

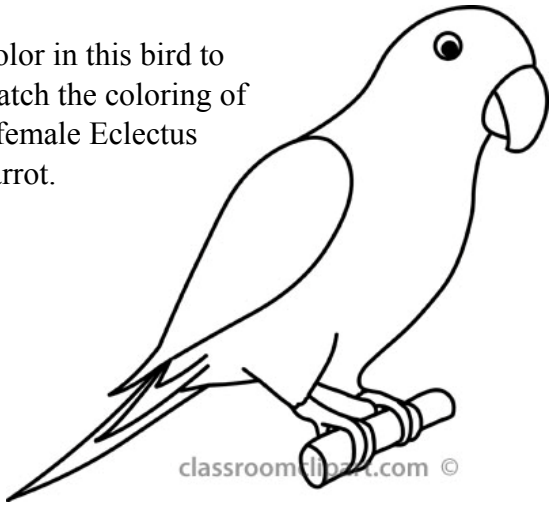
7. What parrot species is the best human mimic? *African Grey*

8. Parrots range in length from *4* inches to *40* inches.

9. Some parrots live in tunnels in the ground. (**True** or False)

10. Crows cannot mimic human speech. (True or **False**)

Color in this bird to match the coloring of a female Eclectus parrot.



Students can get the basic coloring correct from a description in the article. If students have Internet access, they can be more exact in their depiction.

Females are red with purple tips and males are green with blue and orange accents.

Color in this bird to match the coloring of a male Eclectus parrot.

