## THE AGRICULTURAL EDUCATOR'S GUIDE:

To Effective Online Learning





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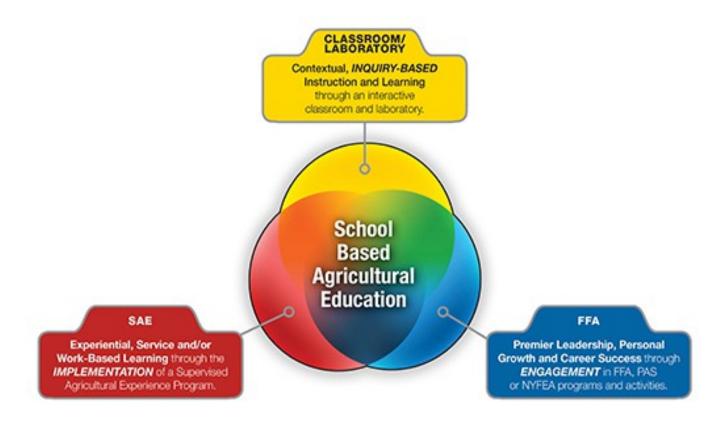
#### TEACHING AG IN AN ONLINE WORLD

Now, more than ever, it is crucial for agricultural teachers to find new, innovating ways to keep students engaged in an educational world that is ever-changing. As districts move to online learning platforms, agricultural educators are finding ways to move the typical hands-on learning experiences to engaging online lessons and activities. The purpose of this guide is to provide agricultural educators a basis in which they can begin planning for online instruction, FFA activities, and student Supervised Agricultural Experiences.

As the three circle model of Agricultural Education suggests, there are three important aspects to a total, successful secondary Agricultural program: classroom/laboratory instruction, FFA, and Supervised Agricultural Experiences. Each component of the three circle model is connected and equally crucial to an agricultural program. These three components provide a context for learning necessary content and life skills to prepare students for adulthood (Dailey, Conroy & Shelley-Tolbert, 2001). This guide aims to discuss each part of the three circle model in detail and provide agricultural educators tips and resources for how to effectively integrate each part of the three circle model for online learners.

"IT {AGRICULTURAL EDUCATION} WILL ALSO HELP **PREPARE** THE NEXT GENERATION OF AGRICULTURISTS IN LEADERSHIP ROLES FOR **FUTURE** FIELD" **CAREERS** THE (DAILEY, IN CONROY & SHELLEY-TOLBERT, 2001).

#### WHAT IS THE THREE-CIRCLE MODEL OF AGRICULTURAL INSTRUCTION?



- Classroom/Laboratory Instruction: The classroom/laboratory component of the three-circle model is the first of the circles within the three circle model. The other two components build off of what students are learning in the classroom and laboratory.
- FFA: FFA is an intra-curricular student organization for students interested in agriculture and leadership. The official name for the organization is the National FFA Organization, with the letters "FFA" standing for Future Farmers of America.
- Supervised Agricultural Experience (SAE): "Supervised Agricultural Experience (SAE) is a student-led, instructor supervised, work-based learning experience that results in measurable outcomes within a predefined, agreed upon set of Agriculture, Food and Natural Resources(AFNR) Technical Standards and Career Ready Practices aligned to a career plan of study" (SAE for All Teachers Guide).

FFA Makes a positive difference in the Lives of Students by Developing Their Potential for Premier Leadership, Personal Growth and Career Success Through Agricultural Education.

"THE DIVERSITY OF STUDENTS SERVED BY TODAY'S PROGRAMS REQUIRES A NEW DEFINITION AND APPROACH TO SAE, ONE THAT ALIGNS SAE WITH 21<sup>ST</sup> CENTURY LEARNERS" (SAE FOR ALL TEACHERS GUIDE).

One aspect of the classroom instruction component of the three-circle model of agricultural education is preparing students for industry certification. The Agriculture Education Services & Technology, Inc. (AEST) is a Florida Farm Bureau subsidiary that supplies Florida's agriculture industry with a certified workforce (AEST, 2021).

#### **Agriculture Industry Certifications 2020-2021**



Keitha Bennett, Director of AEST
Agriculture Education Services & Technology, Inc.
500 S. Florida Ave., Suite 400-1, Lakeland, FL 33801
855.315.8745 AEST@ffbf.org
AEST.AG CERTIFY.AG VERIFY.AG HIRE.AG

Associate Certifications (50 Questions/\$50 each)	Associated Course	CAPE Funding Weight
Agriculture Associate (FLFBR007)	Agriscience Foundations (8106810)	0.2
Agriculture Systems Associate (FLFBR009)	Fundamentals of Ag, Food, and Natural Resources Systems (8021300)	0.1
Specialist Certifications (100 Questions/\$85/\$50)	Associated Course	CAPE Funding Weight
Agritechnology Specialist (FLFBR001)	Agritechnology (8106800)	0.2
Ag Biotechnology Specialist (FLFBR002)	Agriculture Biotechnology (8003100)	0.1
Ag Communications Specialist (FLFBR003)	Agricultural Communications (8117000)	0.1
Ag Mechanics Specialist (FLFBR004)	Technical Ag Operations (8005100)	0.1
Animal Science Specialist (FLFBR005)	Animal Science and Services (8106200)	0.2
Ag UAS Specialist (FLFBR006)	Ag Use of UAS Technology (8005200)	0.1
Forestry Specialist (FLFBR008)	Forestry (8118300)	0.1
Natural Resources Specialist (FLFBR010)	Natural Resources (8006200)	0.1



Merry Mott, Director of Industry Certifications & Career Development Florida Nursery, Growers & Landscape Association 1533 Park Center Drive, Orlando, FL 32835 407-295-7994 or 800-375-3642 mmott@fngla.org fngla.org

Horticulture Certifications (200 Questions/\$85 each)			
FNGLA Certification Horticulture Professional	Horticulture Science and Services (8121600) Landscape Operations (8002100)	0.2	
Landscape Certifications (Hands-on/\$200-\$225 each)	Associated Course	CAPE Funding Weight	
FNGLA Certification Landscape Technician	Horticulture Science and Services (8121600) Landscape Operations (8002100)	0.2	
FNGLA Certification Landscape Maintenance Technician	Horticulture Science and Services (8121600) Landscape Operations (8002100)	0.2	

#### **Engaging Lessons**

Creating engaging lessons can be a challenge for agricultural educators teaching remote learners. The following are links to lessons and How-To Guides for Online Learning platforms.

#### REMOTE TEACHING CURRICULUM/LESSONS:

- https://www.ffa.org/my-toolbox/instructor/educator-resources/
- https://aec.ifas.ufl.edu/resources/aq-teachers/#d.en.786525
- https://www.georgiaffa.org/page.aspx?ID=8044
- http://maefonline.com/home/teacher-center/agricultureeducation-events-resources/
- https://communities.naae.org/welcome
- https://www.agfoundation.org/free-resources/
- https://www.agclassroom.org/
- <a href="https://www.ers.usda.gov/data-products/ag-and-food-statistics-charting-the-essentials/ag-and-food-sectors-and-the-economy">https://www.ers.usda.gov/data-products/ag-and-food-statistics-charting-the-essentials/ag-and-food-sectors-and-the-economy</a>
- https://www.case4learning.org/
- https://nutrientsforlife.org/

#### **How-To Tool Guides:**

#### CANVAS:

• <u>HTTPS://COMMUNITY.CANVASLMS.COM/T5/INSTRUCTOR-GUIDE/TKB-</u> P/INSTRUCTOR

#### GOOGLE CLASSROOM:

 https://edu.google.com/teachercenter/products/classroom/?modal active=none

#### NEARPOD:

<a href="https://nearpod.com/blog/beginners-guide-to-nearpod/">https://nearpod.com/blog/beginners-guide-to-nearpod/</a>

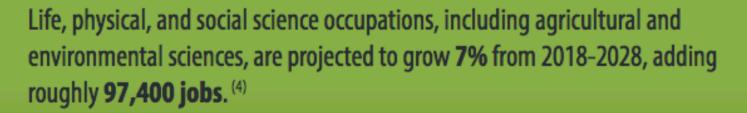
#### **Infographics**

Consider the use of infographics to attach to virtual classroom platforms such as Canvas or Google Classroom to provide students a more engaging experience.



## Why consider an Agriculture career?

- You'll make a difference. In the next 3 decades, agriculture production will need to
  increase by 70% to feed the world's population. (1)
- Diverse job opportunities. Interested students can explore careers in agribusiness, food production, produce, food processing, and horticulture industries.
- Agriculture is everywhere. It provides food, fabrics, wood for construction, paper products, plant and animal products. (2)
- Technological advancements. Technology is continuously evolving as growers embrace technology to produce more crops. (1)
- The industry is growing. Over 50,000 jobs in agriculture are available per year in the US, yet there aren't enough qualified graduates to fill the spots. (3)





#### 619,172

#### The number of beef farms in the United States

Beef farming accounts for 29% of American farms. It is the largest category in the country, and the most valuable commodity (\$76.4 billion annually). (4)

#### Average Amount of Milk a Dairy Cow Produces<sup>(2)</sup>

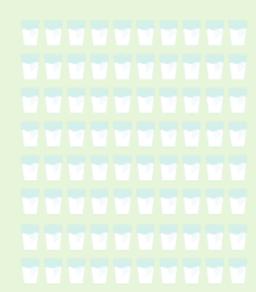
The average dairy cow produces 7 gallons of milk a day...

2,100 pounds of milk a month...

and 46,000 glasses of milk a year.







#### There are 914 million acres of farmland in the United States.

This represents a 2% year-over-year increase — the first since 2006. One-third of this land mass is within metropolitan areas.

#### 2.2 million

Total number of farms in the United States

Of these, 91% are classified as "small," with a gross cash farm income (GCF) of under \$250,000.<sup>(4)</sup> In **1960**, the average U.S. farmer could **feed 25.8 people**. **Today** the average U.S. farmer could **feed 155 people**. (2)

1960

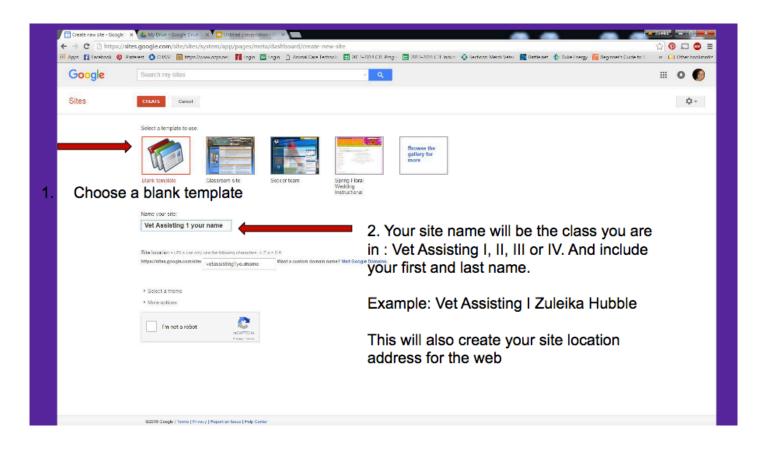
\*\*\*\*\*\*\*\* \*\*\*\*\*\*\* Today

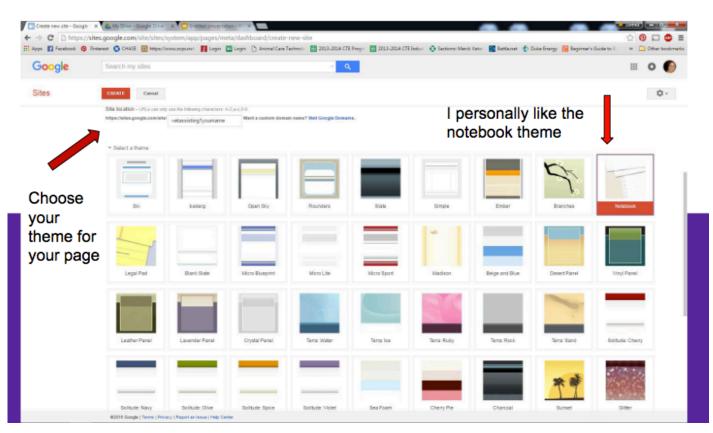
#### **Digital Interactive Notebooks**

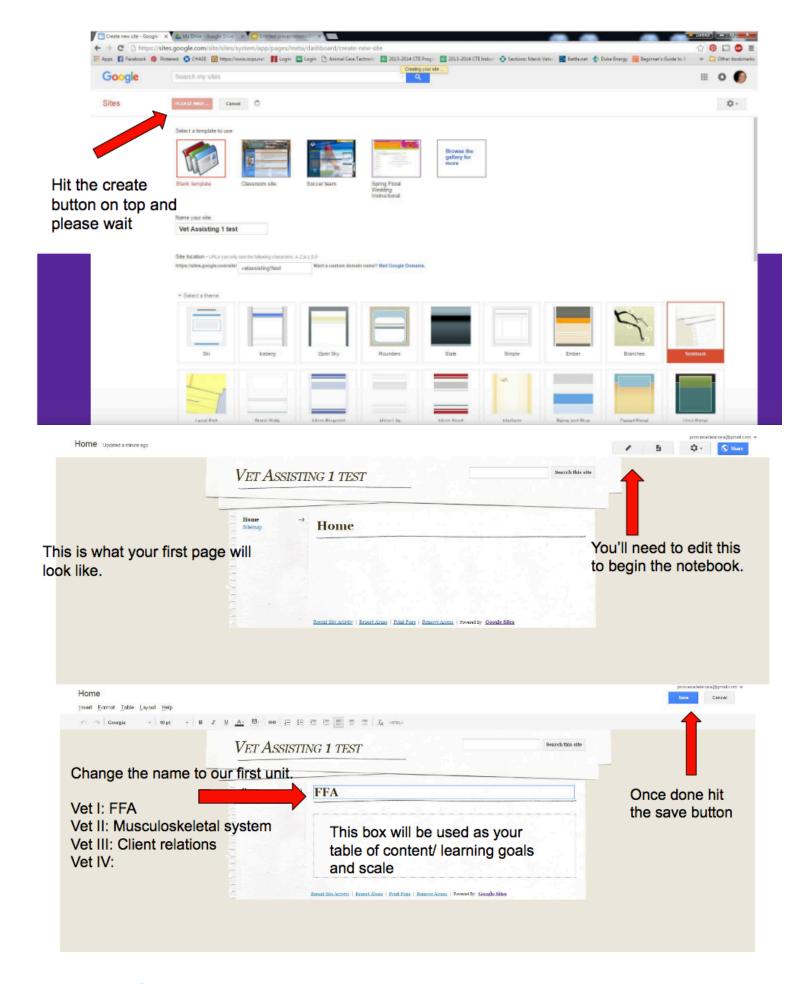
Interactive notebooks can be a useful tool in the classroom. Many teachers have implemented the traditional interactive notebook in the face to face setting. However, in a digital era, we find ways for virtual learners to keep organized with digital interactive notebooks. The following is an example of a step by step for students to set up an interactive notebook using Google Sites (Hubble).

# How to make a digital interactive notebook using Google Sites

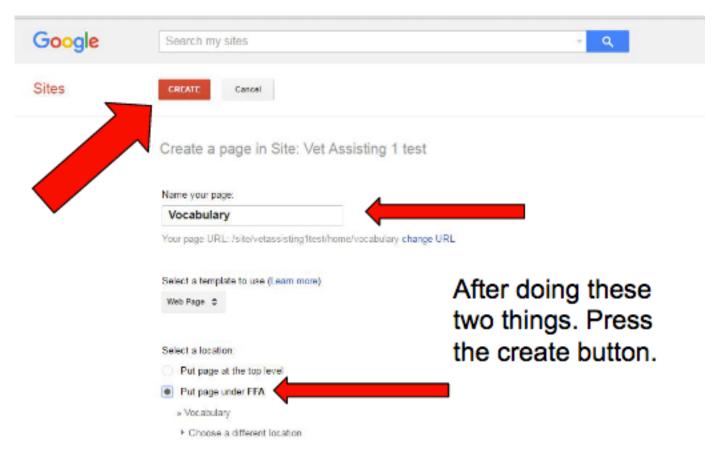
GO TO SITES.GOOGLE.COM

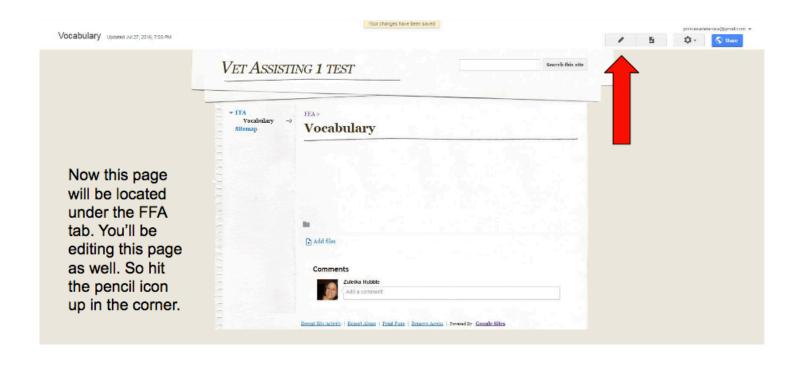


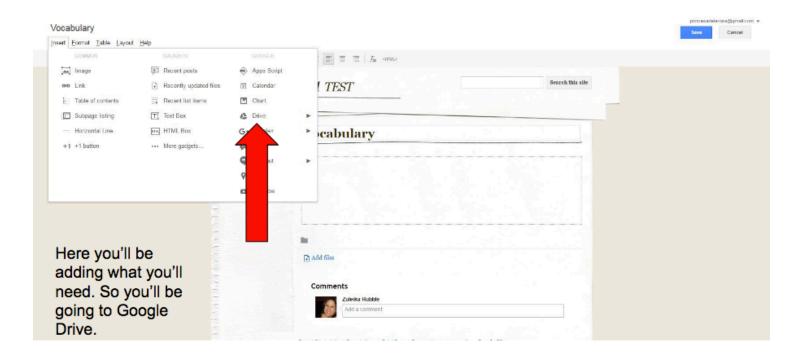


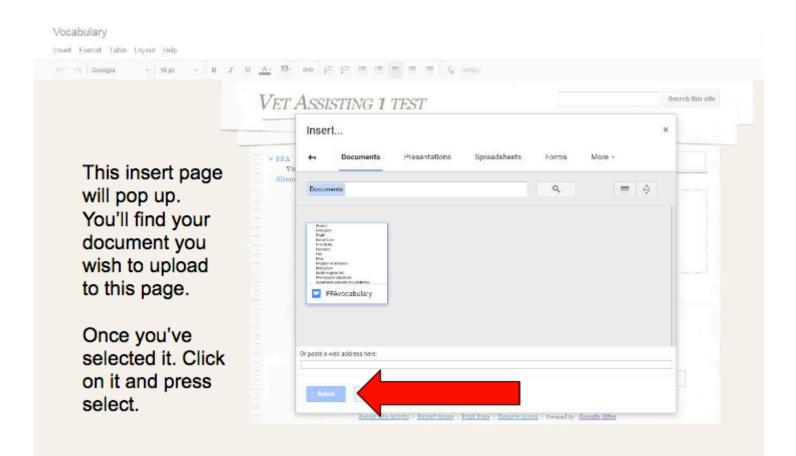


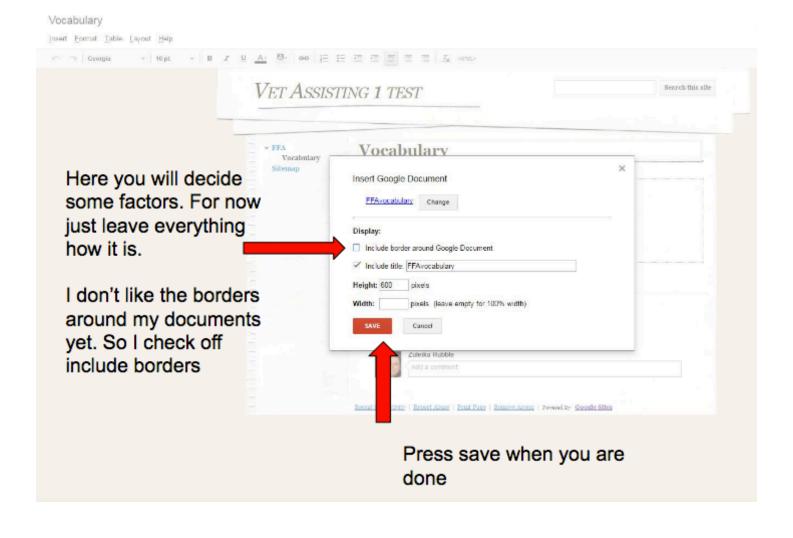


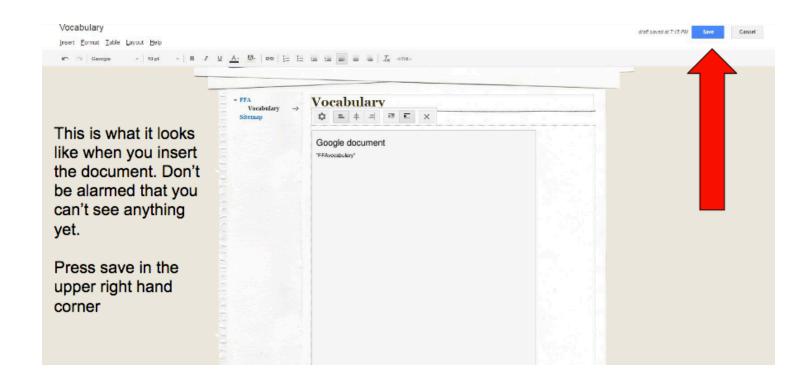


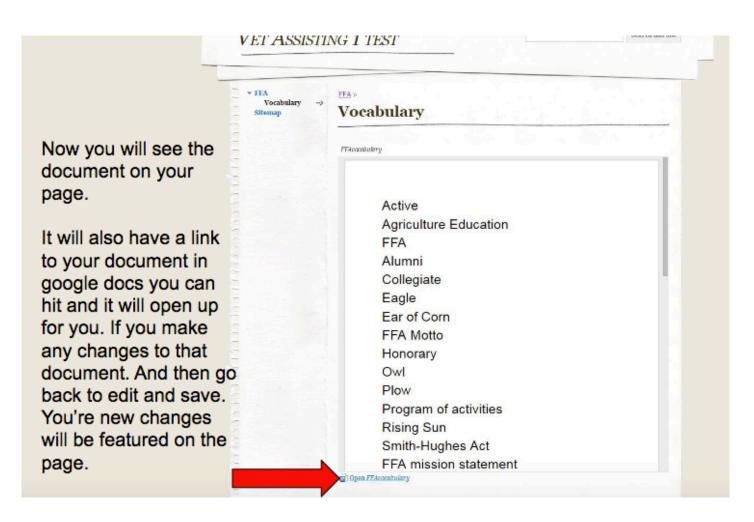












#### Webquests

Another great tool for virtual learners (and face to face learners!) is the use of webquests. Webquests provide students with a self-guided research activity that is interactive. Below are two examples of webquests regarding different agricultural topics.

#### **Food Safety Web Quest**

Go to https://www.foodsafety.gov/food-safety-charts/meat-poultry-charts

1. What is the minimum internal temperature needed for beef, pork and poultry?

Go to https://www.foodsafety.gov/recalls-and-outbreaks

- 1. What is a food safety recall?
- 2. List the most recent food safety recall.
- 3. What is a foodborne outbreak?

Go to https://www.foodsafety.gov/food-safety-charts/cold-food-storage-charts

- 1. How long can an unopened pack of lunch meat stay in the refrigerator before spoiling?
- 2. How long should fresh beef products stay in the fridge?
- 3. How long should most leftovers stay in the fridge?

Go to https://www.foodsafety.gov/people-at-risk

- 1. List the 4 basic steps to food safety.
- 2. How many hours can food sit out at room temperature before spoiling?
- 3. Which groups of people are more at risk for foodborne Illness?

#### Biology of Plants WebQuest

Follow the directions to navigate your way through the online Biology of Plants Website put together by the Missouri Botanical gardens.

• MAKE A COPY OF THIS GOOGLEDOC. Save it in your AG Folder

Go to this web site: http://www.mbgnet.net/bioplants/main.html

#### **Introduction:**

1. How do we know that plants are alive just like people and animals? (List at least 3)

Starting To Grow:
1. Where do plants come from?
2. What does "Germinate" mean?
3. What is a "Nutrient"?
4. What two plant parts are found inside the seed? (Hint: Look at picture)
5. What things do seeds need to germinate? (List all 3)

6. How does a seedling get nutrition before it has leaves?

7. What is the process when a plant makes its own food? **Plant Parts:** Roots: 1. Roots act like straws, drawing in what for the plant? 2. What are two other uses of roots? Stems: 1. What is an "Herbaceous" plant stem? 2. What is a "Woody" plant stem? 3. What part of a plant is a celery stalk? Leaves: 1. How do leaves help a plant make food? 2. What is "Photosynthesis"?

Flowers:
1. What 2 things do flowers contain that make them the reproductive part?
pulse
2. What is "Pollination"?
3. After pollination the ovule develops into what?
Fruit:
1. What does fruit provide for the seed?
2. What is the difference between a fruit and a vegetable?
Seeds:
1. What does a seed contain?
Play the Plant parts Game:
1. How did you do? (What was your score?)
Pollination:
1. Where does pollination begin?

2. What is "Pollen"?

3. What is on top of the pistil?
4. How do plants without flowers reproduce?
5. What are the 3 ways plants can be pollinated?
6. What are three different animals that help pollinate?
Click on "Find out more about pollinators" on the left column  7. Choose two of the listed animals and explain how they help pollinate
Seed Dispersal:
1. What do plants rely on to help spread their seeds?
2. What does "Dispersal" mean?
Animal Dispersal:  1. What are the 3 ways that animals helps disperse seeds?
Wind Dispersal:

1. How does the wind help disperse seeds?
Water Dispersal:  1. How does water help disperse seeds?
Other Dispersal:  1. What other ways do plants disperse their seeds?
Plant Adaptation:  1. What are "adaptations"?
2. Play the Adaptation Game. How did you do? (What was your score?)
Plants and Life on Earth:  1. How are plants unique?
2. Why are plants important to humans?
3. Why are plants important to animals?
4. How do plants help soil?
5. What products do plants provide us with?

#### **Virtual Farm Tours**

Virtual Farm tours are a great way to engage students in real life agriculture without ever leaving the classroom. Students can be immersed in learning how different types of farms are managed and operated. Below are links to various farm tours that can be used in your classroom:

#### PIG FARMING

 https://www.youtube.com/ watch?v=0Zns8dwcwwU&lis t=PLYA8jFF7RfxtPL9V44fCg6 El0vBdW3BGZ

#### DAIRY FARMS

- www.youtube.com/watch? v=TtwkCQFqii0
- www.youtube.com/watch? v=PL8PRjn vC4&t=5s

#### BEEF FARMING

 https://www.youtube.com/ watch?v=UGOmGzHzvMw&li st=PLYA8jFF7Rfxsvjb6DkX3 qIXTBkPuWF3sV

### FRUIT & VEGETABLE PRODUCTION

 https://www.youtube.com/ watch?v=frj7xB6QK9Y&list =PLYA8jFF7RfxuNyftUwsC np00QEAH3gkPa

#### **Ag Explorer**

The Ag Explorer website it a wonderful resource for agricultural educators who are teaching virtual students. This website provides a comprehensive career resource to a wide range of agriculture-related careers. It provides links to virtual field trips, career exploration activities and animal science career lessons. Click the button below to search for what fits your classroom best!

HTTPS://AGEXPLORER.FFA.ORG/RESOURCES



Find your Future in Agriculture

#### **FFA**

#### **Meetings and Events for Virtual Members**

Over the past year, teachers have used technology to look at things in a more innovative way. FFA activities should be no different! Along with using technology to reach students academically, teachers and FFA members can use video conferencing to communicate, fundraise, and stay involved!

## TRY THESE VIDEO CONFERENCING PLATFORMS FOR MEETINGS!

#### Microsoft Teams:



https://signup.microsoft.com/createaccount/signup?products=CFQ7TTC0K8P5:0004&culture=enus&country=US&lm=deeplink&lmsrc=homePageWeb&cmpid =FreemiumSignUpHero&ali=1

Zoom:



https://zoom.us/

Big Blue Button:



https://bigbluebutton.org/





https://new.edmodo.com/

FFA, CONT.

#### **Fundraising Efforts**

Fundraising during these challenging times has been, well, challenging for FFA chapters. Here are some tips for fundraising "virtually" and using social distancing!

Contact a Sales Rep to Start an
Online Purchasing Party! Your
sales rep will provide a link to a
virtual party and the FFA
Chapter will receive a
percentage of the profits!

Scentsy!

Usbourne Books & More

Tupperware

Contact local fast food chains to host an FFA Spirit Night to receive a percentage of the profits! Drive-thru options are available to provide guests a socially distant option.

Chick-fil-a PDQ Five Guys

Krispy Kreme Moe's

Panera Bread Red Robin

Culvers

#### FFA, CONT.

#### **Chapter Officer Selection**

TRADITIONALLY, MANY CHAPTERS PERFORM OFFICER INTERVIEWS AS A WAY OF SELECTING THEIR CHAPTER OFFICER TEAM. TO PRACTICE SOCIAL DISTANCING WHILE STILL PROVIDING AN ENRICHING EXPERIENCE FOR FFA MEMBERS TO SHOW OFF THEIR QUALIFICATIONS, HAVE OFFICER CANDIDATES CREATE A VIDEO USING YOUTUBE DISCUSSING THEIR QUALIFICATIONS, PAST FFA EXPERIENCES AND ANY OTHER INFORMATION FOR A PANEL OF JUDGES TO VIEW AND SCORE. TO GIVE STUDENTS AN OPPORUTNITY TO BE CREATIVE, ALLOW THEM TO INCLUDE A BLOOPER SECTION, FUN SONG OR SHORT SKIT AT THE END OF THEIR SPEECH!



#### FFA, CONT.

#### **Chapter Officer Selection Rubric**

BELOW IS A SAMPLE CHAPTER OFFICER SELECTION RUBRIC FOR YOUR JUDGES TO REFERENCE WHEN VIEWING INTRODUCTION VIDEOS FROM CHAPTER OFFICER CANDIDATES.

#### Sample chapter officer selection rubric

#### **Chapter Officer Interview**

Candidate

Criteria	Excellent 5-4	Above Average 3-2	Average 1-0	Weight	Total
Official Dress and Grooming	-Business-like black pants/skirt, shined black shoes, white shirt or blouse, official tie/scarf, black socks, nylons, and jacket zipped to the topNo more than three medalsMakeup and other accessories are not excessive.	-All of official dress in place with the exception of one or two items. -Applicant is neat and well groomed. -More than three medals. -Makeup and other accessories are not excessive.	-All of official dress in place with the exception of two or more items. -Excessive makeup and/or other accessoriesMore than three medals.	x3	
Poise	-Candidate had excellent poise, body posture, good attitude, confidence, and at ease before judges.	-Candidate had good poise, body posture, attitude, confidence, and ease before judges.	-Candidate had average poise, body posture, attitude, confidence and seemed too comfortable with the judges.	x3	
Delivery of Answers	-Answers were organized and easy to follow, language was appropriate, and had excellent closure.	-Answers appeared to be organized and easy to follow, language was appropriate, good closure.	-Answers were not very well organized or easy to follow.	x3	
Content of Answers	-Answers consisted of important and appropriate subject matter that related to the question asked.	-Answers were questionable and/or somewhat related to the question asked.	<ul> <li>-Answers consisted of subject matter that did not relate to the question asked or were inappropriate.</li> </ul>	x 5	
General Effect	-This candidate would represent the FFA extremely well.	-This candidate would represent the FFA well.	-This candidate would not be a good representative of the FFA.	x3	
Possible Total				85	

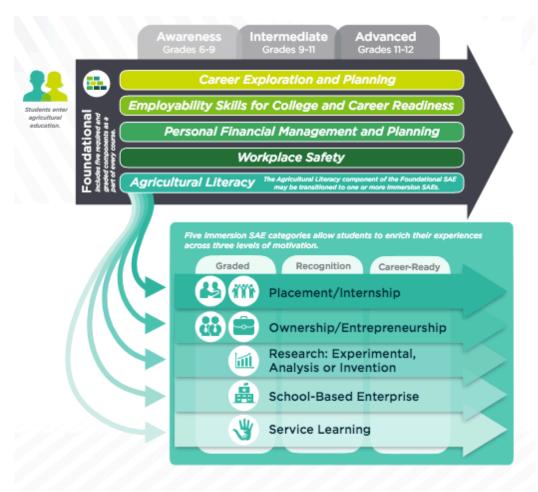
#### SUPERVISED AGRICULTURAL EXPERIENCES

THE FOLLOWING GUIDES PROVIDE AN OVERVIEW OF SAE'S, EXPLAIN HOW SAES WORK AND PROVIDE SAE OPTIONS AND IMPLEMENTATION TIPS FOR BOTH EDUCATORS AND STUDENTS. THE TEACHER GUIDE INCLUDES WAYS TO INCLUDE ALL STUDENTS IN A SAE PROGRAM THROUGH INVOLVING THEM IN FOUNDATIONAL SAE PROGRAMS.

#### Supervised Agricultural Experience (SAE) Resources:

- Teacher Guide: https://ffa.app.box.com/s/exollg1x7q2Intun3su2mdufw07wiklf
- Student Guide: <u>https://ffa.app.box.com/s/m572qkpzzbdb9ew04haovv434k33pb</u> 90

#### The SAE Roadmap:



#### SUPERVISED AGRICULTURAL EXPERIENCES, CONT.

#### **Sharing Student Experiences:**

The use of video platforms such as YouTube can be a beneficial tool in sharing student SAE projects! Create a YouTube channel for students to create and share their SAE programs with you as the educator as well as other students.

Watch the following video for setting up a YouTube channel! Or, follow the directions below!

https://www.youtube.com/watch?v=I0eM1 JVqHE&feature=youtu.be

#### Create a personal channel

Follow these instructions to create a channel that only you can manage using your Google Account.

- Sign in to YouTube on a computer or the mobile site.
- Click your profile picture (2) > Your Channel.
- 3. You'll be asked to create a channel.
- Check the details (with your Google Account name and photo ) and confirm to create your channel.

#### Create a channel with a business or other name

Follow these instructions to create a channel that can have more than one manager or owner.

You can connect your channel to a Brand Account if you want to use a different name on YouTube than your Google Account. Learn more about Brand Accounts.

- Sign in to YouTube on a computer or the mobile site.
- Go to your channel list
- 3. Choose to create a new channel or use an existing Brand Account:
  - Create a channel by clicking Create a new channel.
  - Create a YouTube channel for a Brand Account that you already manage by choosing the Brand Account
    from the list. If this Brand Account already has a channel, you can't create a new one. When you select the
    Brand Account from the list, you'll be switched over to that channel.
- 4. Fill out the details to name your new channel. Then, click Create. This will create a new Brand Account.
- 5. To add a channel manager, follow the instructions to change channel owners and managers.

Learn more about using a channel with a business or other name on YouTube.

#### METHODS AND STRATEGIES FOR VIRTUAL LEARNERS

#### Traditional

- Transfer information (lecture or mini-lesson) or explain complex topic.
- Conduct a think-aloud as you navigate a task, apply a strategy, practice a skill, or use an online tool or resource.
- Engage student sin academic conversations about a text, video, podcast, topic, or issue.
- Encourage students to research a topic or issue and crowdsource the information they find.
- Group students online and allow them to work collaboratively on shared tasks.
- Connect students with practice and review activities.
- Assess student work and use that data to determine what students need moving forward.
- Ask students to think about what they learned, how they learned it, what questions they have about the concepts or skills covered, and what support they need to continue improving.

#### Virtual Learners

- Use Canvas Studio to record a screen-cast.
- Use Big Blue Button, Microsoft Teams, or other video platform to host live sessions.
- Use Canvas Studio to record a video showing how to do something or record a screencast to demonstrate how to navigate something online.
- Post discussion questions on Canvas to engage students in asynchronous text-based discussions.
- Host a synchronous discussion using a video conferencing tool (like Big Blue Button or Microsoft Teams) to allow students to engage in a real time discussion.
- Give students a topic to research online and ask them to crowd source what they are learning in a shared space online (an online discussion board, shared online document or slide deck, Padlet Wall, or FlipGrid)

#### Try It!

Kahoot!:

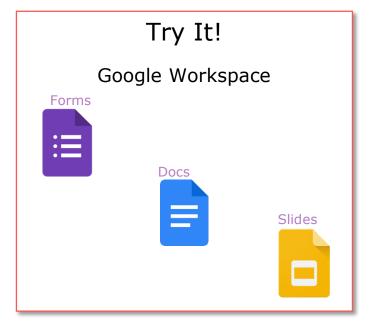
https://kahoot.com/schools-u/

Quizizz:

https://quizizz.com/

Quizlet:

https://quizlet.com/



#### Virtual Learners, continued.

- Use collaborative suite like Google or Microsoft, to engage groups of students online (shared documents or slide decks)
- Use online resources, like Quizizz, Kaboot!, and Quizlet to encourage review and to create retrieval activities.
- Use digital documents (Google Documents or Microsoft OneNote) to assign review activities or writing assignments.
- Administer tests and quizzes using online assessment tools.
- Assign a writing prompt, task, or project designed to assess the students' mastery of content and skills.
- Use Google Forms or Microsoft Forms to create an end-of-the-week exit ticket to encourage students to develop metacognitive muscles. Teachers can also ask students to reflect in an online journal or learning log about their progress each week.

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