

Agriculture, Food, Natural Resources Career Cluster Resource List

Resource	Author / Publisher	Location	Notes
Alternative Energy	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for standards 13-17.
Economic Impact of Tennessee Agriculture and Forestry	Tennessee Department of Agriculture	http://www.tn.gov/agriculture/article/ag-eac-economic-impact	This website provides summative economic impact information with a link the Overview of Tennessee Agriculture. This site will help provided information for all standards in this course needing state, regional, or county agriculture data.
Emerging Technologies in Agriculture	National FFA Organization	http://www.magnetmail.net/Actions/email_web_version.cfm?publish=newsletter&user_id=NSTA&message_id=3122560	This resource has support materials, activities, video clips, and lesson plans to support each standard within the Introduction to Agricultural Science course. AFRN teachers may need to gain access by using their My FFA login.
Esri Education Community	Esri	http://edcommunity.esri.com	This website provides educational resources for teachers use with GIS technology in their classroom by providing: Case studies to help guide instruction and research projects; GeoMentors to help teachers and students use GIS; and sample GIS career videos. This resources can support every standard in this course.
Extension Publications	University of Tennessee	https://utextension.tennessee.edu/publications/Pages/default.aspx	Links to research publications, industry certifications, and best practices related to all AFRN careers industries.

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FFA Learn Resources	National FFA Organization	https://www.ffa.org/FFAResources/ffalearn/Pages/default.aspx	FFA Learn has lesson plans and other resource materials grouped by topic and by career cluster area. These resources cover many subjects covered in this course including Risk Management, Service Learning, Agri-Entrepreneurship and much more.
Field Crops	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for standards 2, 18, 19, 20, 21, and 22.
Freebies for Science Teachers	National Science Teachers Association	www.nsta.org/publications/freebies.aspx	Free resources for the K-12 classroom. This site includes resources for each program of study area covered in this course. Includes free e-Newsletters full of science and STEM activities for the classroom.
GeoTech Resources	National GeoTech Center of Excellence	http://www.geotechcenter.org/professional-resources.html	Geographic Information Science (GIS) geospatial technology teaching resources such as best practices, data sources, technology, textbooks, curriculum, organizations, case studies, and career pathways. These resources can be used to help teach multiple sessions of this course.
GIS Ag Maps	Applied GIS and Remote Sensing: Information, Data, and Analysis	http://www.gisagmaps.com	Show and provides information and data about GIS and remote sensing. Free downloadable GIS software. Can be used with multiple standards in this course.
GIS Software and Materials	Esri	http://www.esri.com/software/arcgis/explorer	Show and provides information and data about GIS and remote sensing. Free downloadable GIS software. Can be used with multiple standards in this course.

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Horticulture	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for standards 18-22.
Informational resource link for all POS	About.com	www.about.com	About.com is a valuable resource for content that helps people to solve the large and small needs of everyday life.
Introduction to Using GIS in the Classroom	Esri	http://training.esri.com/gateway/index.cfm?fa=catalog.webCourseDetail&courseid=2198	If you have not completed a GIS training session, it is highly recommend to complete this three hour course prior to teaching any GIS standard. You will need to use the free downloadable ArcGIS Online Map Viewer program for this course. Information is provided on the web site.
Labor and Employment Data	O Net online	http://www.onetonline.org	This site has current and projected labor data and job skills aligned to career cluster This site can help with all labor, skills and employment trend standards for all programs of study areas covered in this course. Students will need some basic navigation steps.
Labor and Employment Data	US Bureau of Labor and Statics	www.bls.gov	This site has current and projected labor data and job skills aligned to career cluster This site can help with all labor, skills and employment trend standards for all programs of study areas covered in this course. Students will need to now some of the basic employment terminology to navigate using this site.

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Livestock and Pasture	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for standards 10-12.
Local Food Systems	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for standards 10-12 and 18-22.
Market, Business & Risk Management	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for standards 8-9.
SAE Project Ideas	National FFA Organization	https://vimeo.com/161659349	This is a 2:25 minute video clip that can help students to meet Agriscience standard 4 or any student need assistance in starting an SAE.

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Sample SAE Video Clips	National FFA Organization	<p>https://vimeo.com/161986994 SAE - Woodworking - https://vimeo.com/162897443 SAE - Rabbits - https://vimeo.com/164128457 SAE - Horse Showing - https://vimeo.com/164628856 SAE - Aeroponics - https://vimeo.com/165335262</p>	These video clips provide an excellent insight from a student's perspective the importance of having an SAE. Clips range from 1:25 to 3:01 minutes. These video clips will help meet Agriscience standard 4 or to any student starting a SAE. Copy the desired video address and paste in your web browser.
Soil and Compost	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for standards 13-22.
Stem Classroom Archive	National Science Teachers Association	www.nsta.org/publications/archive-stem.aspx	Forum for ideas, journal articles and resources for all AFRN Programs of Study area which are covered in this survey course.

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Sustainable Agriculture Information	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, sustainable and organic farming practices, alternative crop and livestock, and innovative marketing. Site also provides links for credible sources for each AFNR POS.
TennesseeAg.org	FACCT (Farm Animal Care Coalition of Tennessee	http://www.tennesseeag.org	TennesseeAg.org provides general Tennessee agricultural facts with resource and media links. Materials are at multiple levels of complexity to help the student to become proficient in the following: Introduction to Agricultural Science Grade 7 & 8 standard 1, Agriscience standard 1, Principles of Agribusiness standards 1, 4, Principles of Food Production standard 1 SAE (for Credit) standards 3, 10, and Passing Literacy OnWard (PLOW) program.
TN Wildlife Federation Resources	Tennessee Wildlife Federation	http://www.tn.gov/TWRA/	The TWF provides educational materials, programs, and information on issues dealing with Tennessee’s wildlife and habitat issues. The website provides factual information about wildlife habitat and population impacts including epidemics. The site is easy to follow and provides links for additional facts and statistics to help meet several

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TWRA On the Go App	Tennessee Wildlife Resources Agency	http://www.tn.gov/twra/article/mobile-web-information	The TWRA has gone native! Now sportsmen and outdoor enthusiasts have a guide to the great Tennessee outdoors right at their fingertips with a FREE new native mobile app available for Apple (iOS 6.0 and newer) and Android devices (Android OS 3.0 and newer).
USDA Employment Trend and Forecast	United States Department of	https://www.purdue.edu/usda/employment/scienc	Provides national agricultural employment trends and forecast. Can be used to help meet the course standards
Veterinarians On Call	Zoetis services LLC	https://www.youtube.com/user/veterinariansoncall	Over 100 three to YouTube clips covering over 100 topics related to care of farm animals and companion animals. These three to eight minute clips can be used to help support several of the Veterinary and Animal Science POS courses and the Principles of Food Production course standards.
Veterinary Technician News	National Association of Veterinary Technicians in America	http://www.navta.net	Provides links to credible articles, case studies and online training materials including videos that can be used with Small and Large Animal Science and the veterinary Science courses. Articles and case studies are at a high level of complexity but achievable with some scaffolding
Water Management	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for each AFNR POS.

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Web Soil Survey	USDA - Natural Resource Conservation	http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm	<p>This web soil survey provides soil data and information for general and farm use. Use this resources to help with soil assessment, conservation and engineering applications.</p> <p>This resource will help support standards dealing with soils, plant growth, and environmental factors.</p>

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Alternative Energy	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for standards 21-25.
Animal Health Care	Infovets.com – Animal Health Publishers	http://www.infovets.com/styl/es/?page=home%2Ehtm	A series of animal health manuals and on-line resources written by veterinarians for dog, cat, and horse owners, as well as beef and cattle ranchers, and dairy producers. This resource will help support standards 2, 9-15, and 18-20.
Economic Impact of Tennessee Agriculture and Forestry	Tennessee Department of Agriculture	http://www.tn.gov/agriculture/article/ag-eac-economic-impact	This website provides summative economic impact information with a link the Overview of Tennessee Agriculture. This site will help provided information for standards 1, 3, and 5 needing state, regional, or county agriculture data.
Emerging Technologies in Agriculture	National FFA Organization	http://www.magnetmail.net/Actions/email_web_version.cfm?publish=newsletter&user_id=NSTA&message_id=3122560	This resource can be used to support each Agriscience course standard. This resource outlines, web links, lab activities and recommends video clips. tTeachers may need to gain access using their MyFFA login.
Extension Publications	University of Tennessee	https://utextension.tennessee.edu/publications/Pages/default.aspx	Links to research publications, industry certifications, and best practices related each content area in this course.
FFA Learn Resources	National FFA Organization	https://www.ffa.org/FFAResources/ffalearn/Pages/default.aspx	FFA Learn has lesson plans and other resource materials grouped by topic and by program of study area. These resources cover many subjects including Risk Management, Service Learning, Agri-Entrepreneurship and much more.

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Field Crops	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for standards 16-17.
Freebies for Science Teachers	National Science Teachers Association	www.nsta.org/publications/freebies.aspx	Free resources for the K-12 classroom. This site includes resources for each program of study. Includes free e-Newsletters full of science and STEM activities for the classroom.
GIS Ag Maps	Applied GIS and Remote Sensing: Information, Data, and Analysis	http://www.gisagmaps.com	Show and provides information and data in order that GIS and remote sensing. Free downloadable GIS software. Can be used with Agricultural and Biosystems Engineering Standards 6, 7, and 9; Agricultural Power and Equipment Standards 13 and 18; Principles of Agricultural Mechanics Standard 9; and Natural Resource Management standards 21 and 22.
GIS Best Practices by US Department of Agriculture	Esri	http://www.esri.com/library/bestpractices/agriculture.pdf	GIS Best Practices by the US Department of Agriculture. Several of these practices could be replicated on a local, regional or state level as an instructional activity or as student projects. This is a great resource to help introduce GIS technology within several POS.
GIS Related Lessons	ARC Lessons - Esri	http://edcommunity.esri.com/Resources	Online Library of GIS-related lessons at various levels using various software.

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GIS Software and Materials	Esri	http://www.esri.com/software/arcgis/explorer	Shows and provides information and data in order that GIS and remote sensing. Can be used with Agricultural and Biosystems Engineering Standards 6, 7, and 9; Agricultural Power and Equipment Standards 13 and 18; Principles of Agricultural Mechanics Standard 9; and Natural Resource Management standards 21 and 22.
Horticulture	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for each AFNR POS.
Informational resource link for all POS	About.com	www.about.com	About.com is a valuable resource for content that helps people to solve the large and small needs of everyday life. Recommended for specific task with each standard.
Introduction to Using GIS in the Classroom	Esri	http://training.esri.com/gateway/index.cfm?fa=catalog.webCourseDetail&courseid=2198	Can be used to help support standards 1, 3, 5, and 8. It is highly recommend to complete this three hour course prior to teaching any GIS standard. You will need to use the free downloadable ArcGIS Online Map Viewer program for this course. Information is provided on the web site.
Labor and Employment Data	O Net online	http://www.onetonline.org	This site has current and projected labor data and job skills aligned to all programs of study. This site can help with all labor, skills and employment trend standardssuch as 1 and 3. Students will need some basic navigation steps.

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Labor and Employment Data	US Bureau of Labor and Statics	www.bls.gov	This site has current and projected labor data and job skills aligned to career cluster This site can help with all labor, skills and employment trend standards (1 & 3) for all programs of study. Students will need to now some of the basic employment terminology to navigate using this site.
Livestock and Pasture	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for each AFNR POS.
Local Food Systems	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for each AFNR POS.
Market, Business & Risk Management	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for standards 4 and 5.
National Geographic Education Collections	National Geographic	http://education.nationalgeographic.com/education/topics/pollution/?ar_a=1&audiences=1	This resource contains lesson plans, video and other materials for Grades 9-12 to support standard content areas dealing with animals, climate change, ecosystems, energy and geography.

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Organic Farming	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for standards 1, 3, 4, 5, 16, and 17.
Plant taxonomy and Characteristics	Flora of North America	http://floranorthamerica.org	Flora of North America is a reference source, information on the names, taxonomic relationships, continent-wide distributions, and morphological characteristics of all plants native and naturalized found in North America north of Mexico. Text is technical and knowledge of terminology is needed. Supports standards 16 and 18-20.
SAE Project Ideas	National FFA Organization	https://vimeo.com/161659349	This is a 2:25 minute video clip that can help students to meet Agriscience standard 4 or any student need assistance in starting an SAE.
Sample SAE Video Clips	National FFA Organization	https://vimeo.com/161986994 SAE - Woodworking - https://vimeo.com/162897443 SAE - Rabbits - https://vimeo.com/164128457 SAE - Horse Showing - https://vimeo.com/164628856 SAE - Aeroponics - https://vimeo.com/16533526	These video clips provide an excellent insight from a student's perspective the importance of having an SAE. Clips range from 1:25 to 3:01 minutes. These video clips will help meet Agriscience Standard 4 or to any student starting a SAE. Copy the desired video address and paste in your web browser.

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Science Based Research Summaries	Science Daily	www.sciencedaily.com	This is a great resource for science based information including but not limited research summaries from universities, and other scientific and professional organizations. Use this resource with any AFNR course. Mobil Apps are available.
Soil and Compost	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for each AFNR POS.
Stem Classroom Archive	National Science Teachers Association	www.nsta.org/publications/archive-stem.aspx	Forum for ideas, journal articles and resources for all AFNR Programs of Study
STEM In Agriculture	The STEM Classroom	http://www.magnetmail.net/Actions/email_web_version.cfm?publish=newsletter&user_id=NSTA&message_id=3122560	Articles are at multiple levels of complexity, but offers online publications, news, sustainable and organic farming practices, alternative crop and livestock, and innovative marketing. Site also provides links for credible sources for the standards relating to plant, animal, and mechanical topics. Click on the home link to access additional free materials.
Sustainable Agriculture Information	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, sustainable and organic farming practices, alternative crop and livestock, and innovative marketing. Site also provides links for credible sources for standards 1, 4, 5, 17, and 19-25.

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TennesseeAg.org	FACCT (Farm Animal Care Coalition of Tennessee)	http://www.tennesseeag.org	TennesseeAg.org provides general Tennessee agricultural facts with resource and media links. Materials are at multiple levels of complexity to help the student to become proficient in the following: , Agriscience standard 1 Principles of Agribusiness standards 1 and 4
US Farm Bill and Federal Legislation	United States Department of Agriculture	www.usda.gov/farmbill	Articles are at a high level of complexity, but archives can be accessed online and searched by topic to find informational texts on a variety of topics. Supports standards 1, 3, 4, and 5.
USDA Employment Trend and Forcast	United States Department of Agriculture	https://www.purdue.edu/usda/employment/science-and-engineering	Provides national agricultural employment trends and forcast. Can be used to help meet the course standards dealing with labor market information with standards 1 and 3.
Veterinarians On Call	Zoetis services LLC	https://www.youtube.com/user/veterinariansoncall	Over 100 three to YouTube clips covering over 100 topics related to care of farm animals and companion animals. These three to eight minute clips can be used to help support standards 1, 2, 3, 4, 5, 11, 12, 13, 15, and 20.
Veterinary Career and Rabies Identification and Prevention	The American Veterinary Medical Association, with a kind contribution from GlaxoSmithKline	http://avma.ait.net	Instructional DVDs to educators/mentors of students interested in the veterinary field. If you would like to order a free copy for classroom use, visit the website. This resources supports standards 1, 2, 3, 4, 5, 11, 12, 13, 15, and 20.

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Water Management	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for standards 6-8.
Web Soil Survey	USDA - Natural Resource Conservation	http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm	This web soil survey provides soil data and information for general and farm use. Use this resources to help with soil assesment, conservation and engrineering applications. This resource will help support standards dealing with soils, plant growth, and environmental factors (6-8,and 16-17.)

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Alternative Energy	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources dealing with the business aspect of alternative energy or background knowledge for each course in this POS.
Economic Impact of Tennessee Agriculture and Forestry	Tennessee Department of Agriculture	http://www.tn.gov/agriculture/article/ag-eac-economic-impact	This website provides summative economic impact information with a link the Overview of Tennessee Agriculture. This site will help provide information for all standards needing state, regional, or county agriculture data.
Emerging Technologies in Agriculture	National FFA Organization	http://www.magnetmail.net/Actions/email_web_version.cfm?publish=newsletter&user_id=NSTA&message_id=3122560	This resource can be used to support the Middle School course Introduction to Agricultural Science and Agriscience course standards. This resource outlines lab activities and recommends video clips. AFRN teachers may need to gain access by using their AgCN login.
Esri Education Community	Esri	http://edcommunity.esri.com	This website provides educational resources to teachers use GIS technology in their classroom by providing: Case studies to help guide instruction and research projects; GeoMentors to help teachers and students use GIS; and sample GIS career videos.
Extension Publications	University of Tennessee	https://utextension.tennessee.edu/publications/Pages/default.aspx	Links to research publications, industry certifications, and best practices related to all AFRN programs of study.
FFA Learn Resources	National FFA Organization	https://www.ffa.org/FFALearn/Resources/ffalearn/Pages/default.aspx	FFA Learn has lesson plans and other resource materials grouped by topic and by career cluster area. These resources cover many subjects including Risk Management, Service Learning, Agri-Entrepreneurship.

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GeoTech Resources	National GeoTech Center of Excellence	http://www.geotechcenter.org/professional-resources.html	Geographic Information Science (GIS) geospatial technology teaching resources such as best practices, data sources, technology, textbooks, curriculum, organizations, case studies, and career pathways. These resources can be used to meet standards in Introduction to Geographic Information Sciences (GIS) course.
GIS Ag Maps	Applied GIS and Remote Sensing: Information, Data, and Analysis	http://www.gisagmaps.com	Show and provides information and data in order that GIS and remote sensing. Free downloadable GIS software. Can be used with Agricultural and Biosystems Engineering Standards 6, 7, and 9; Agricultural Power and Equipment Standards 13 and 18; Principles of Agricultural Mechanics Standard 9; and Natural Resource Management standards 21 and 22.
GIS Best Practices by US Department of Agriculture	Esri	http://www.esri.com/library/bestpractices/agriculture.pdf	GIS Best Practices by the US Department of Agriculture. Several of these practices could be replicated on a local, regional or state level as an instructional activity or as student projects. This is a great resource to help introduce GIS technology as a effective business practice.
GIS Related Lessons	ARC Lessons - Esri	http://edcommunity.esri.com/Resources	Online Library of GIS-related lessons at various levels using various software.
GIS Software and Materials	Esri	http://www.esri.com/software/arcgis/explorer	Shows and provides information and data in order that GIS and remote sensing. This has free downloadable software to use with the other resources.
Informational resource link for all POS	About.com	www.about.com	About.com is a valuable searchable resource for content that helps people to solve the large and small needs of everyday life.

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Labor and Employment Data	US Bureau of Labor and Statics	www.bls.gov	This site has current and projected labor data and job skills aligned to career cluster This site can help with all labor, skills and employment trend standards for all programs of study. Students will need to now some of the basic employment terminology to navigate using this site.
Livestock and Pasture	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for each AFNR POS.
Local Food Systems	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for local food systems.
Market, Business & Risk Management	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for each course.

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National Geographic Education Collections	National Geographic	http://education.nationalgeographic.com/education/topics/pollution/?ar_a=1&audiences=1	This resource contains lesson plans, video and other materials for Grades 9-12 on animals, climate change, ecosystems, energy and geography topics
Organic Farming	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for each course in this POS.
SAE Project Ideas	National FFA Organization	https://vimeo.com/161659349	This is a 2:25 minute video clip that can help students to meet the need of any student in starting or maintaining an SAE.
Sample SAE Video Clips	National FFA Organization	https://vimeo.com/161986994 SAE - Woodworking - https://vimeo.com/162897443 SAE - Rabbits - https://vimeo.com/164128457 SAE - Horse Showing - https://vimeo.com/164628856 SAE - Aeroponics - https://vimeo.com/165335262	These video clips provide an excellent insight from a student's perspective the importance of having an SAE. Clips range from 1:25 to 3:01 minutes. These video clips will help meet Agriscience standard 4 or to any student starting a SAE. Copy the desired video address and paste in your web browser.

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Stem Classroom Archive	National Science Teachers Association	www.nsta.org/publications/archive-stem.aspx	Forum for ideas, journal articles and resources for all AFNR Programs of Study
STEM In Agriculture	The STEM Classroom	http://www.magnetmail.net/Actions/email_web_version.cfm?publish=newsletter&user_id=NSTA&message_id=3122560	Articles are at multiple levels of complexity, but offers online publications, news, sustainable and organic farming practices, alternative crop and livestock, and innovative marketing. Site also provides links for credible sources for each course in this POS. Click on the home link to access additional free materials.
Sustainable Agriculture Information	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, sustainable and organic farming practices, alternative crop and livestock, and innovative marketing. Site also provides links for credible sources for each AFNR POS.
TennesseeAg.org	FACCT (Farm Animal Care Coalition of Tennessee)	http://www.tennesseeag.org	TennesseeAg.org provides general Tennessee agricultural facts with resource and media links. Materials are at multiple levels of complexity to help the student to become proficient in multiple aspects of the ag business industry
US Farm Bill and Federal Legislation	United States Department of Agriculture	www.usda.gov/farmbill	Articles are at a high level of complexity, but archives can be accessed online and searched by topic to find informational texts on a variety of topics. This supports several content areas throughout this POS such as concepts, markets, futures, sales, recordkeeping, economics, planning, regulations, etc.
USDA Employment Trend and Forcast	United States Department of Agriculture	https://www.purdue.edu/usda/employment/science-and-engineering	Provides national agricultural employment trends and forcast. Can be used to help meet the course standards dealing with labor market information.

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Water Management	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for each course in this POS.



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Alternative Energy	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for each course in this POS.
ATV Safety	TN Coalition for ATV Safety	http://www.childrenshospital.vanderbilt.org/services.php?mid=9630	The Tennessee Coalition for ATV Safety website provides factual information, safety training programs, educational materials, and web links. Online and downloadable resource are available while some training programs may require additional fees and advanced planning. This resource can be used to meet safety equipment operation standards.
Economic Impact of Tennessee Agriculture and Forestry	Tennessee Department of Agriculture	http://www.tn.gov/agriculture/article/ag-eac-economic-impact	This website provides summative economic impact information with a link the Overview of Tennessee Agriculture. This site will help provided information for all standards needing state, regional, or county agriculture data.
Emerging Technologies in Agriculture	National FFA Organization	http://www.magnetmail.net/Actions/email_web_version.cfm?publish=newsletter&user_id=NSTA&message_id=3122560	This resource can be used to support the Middle School course Introduction to Agricultural Science and Agriscience course standards. This resource outlines lab activities and recommends video clips to support the courses in this POS. AFRN teachers may need to gain access by using their MyFFA login.

Agriculture, Food, Natural Resources Career Cluster Resource List

Resource	Author / Publisher	Location	Notes
Esri Education Community	Esri	http://edcommunity.esri.com	This website provides educational resources to teachers use GIS technology to help meet standards outlined in each course in this POS by providing: Case studies to help guide instruction and research projects; GeoMentors to help teachers and students use GIS; and sample GIS career videos.
Extension Publications	University of Tennessee	https://utextension.tennessee.edu/publications/Pages/default.aspx	Links to research publications, industry certifications, and best practices related to all courses in this programs of study.
FFA Learn Resources	National FFA Organization	https://www.ffa.org/FFAResources/ffalearn/Pages/default.aspx	FFA Learn has lesson plans and other resource materials grouped by topic and by program of study. These resources cover many subjects including Risk Management, Service Learning, Agri-Entrepreneurship and much more
Freebies for Science Teachers	National Science Teachers Association	www.nsta.org/publications/freebies.aspx	Free resources for the K-12 classroom. This site includes resources for each program of study. Includes free e-Newsletters full of science and STEM activities that align to content topics within each course.
GeoTech Resources	National GeoTech Center of Excellence	http://www.geotechcenter.org/professional-resources.html	Geographic Information Science (GIS) geospatial technology teaching resources such as best practices, data sources, technology, textbooks, curriculum, organizations, case studies, and career pathways. These resources can be used to meet several standards that includes GIS technology.



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GIS Ag Maps	Applied GIS and Remote Sensing: Information, Data, and Analysis	http://www.gisagmaps.com	Show and provides information and data in order that GIS and remote sensing. Free downloadable GIS software. Can be used with Agricultural and Biosystems Engineering Standards 6, 7, and 9; Agricultural Power and Equipment Standards 13 and 18; and Principles of Agricultural Mechanics Standard 9.
GIS Best Practices by US Department of Agriculture	Esri	http://www.esri.com/library/bestpractices/agriculture.pdf	GIS Best Practices by the US Department of Agriculture. Several of these practices could be replicated on a local, regional or state level as an instructional activity or as student projects. This is a great resource to help meet the the standards with the following courses: Agricultural and Biosystems Engineering Standards 6, 7, and 9; Agricultural Power and Equipment Standards 13 and 18; and Principles of Agricultural Mechanics Standard 9.
GIS Related Lessons	ARC Lessons - Esri	http://edcommunity.esri.com/Resources	Online Library of GIS-related lessons at various levels using various software. Great to help with the following courses: Agricultural and Biosystems Engineering Standards 6, 7, and 9; Agricultural Power and Equipment Standards 13 and 18; and Principles of Agricultural Mechanics Standard 9.
GIS Software and Materials	Esri	http://www.esri.com/software/arcgis/explorer	Shows and provides information and data in order that GIS and remote sensing. Can be used with Agricultural and Biosystems Engineering Standards 6, 7, and 9; Agricultural Power and Equipment Standards 13 and 18; Principles of Agricultural Mechanics Standard 9; and Natural Resource Management standards 21 and 22.

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Resource	Author / Publisher	Location	Notes
Informational resource link for all courses	About.com	www.about.com	About.com is a valuable searchable resource for content that helps people to solve the large and small needs of everyday life.
Introduction to Using GIS in the Classroom	Esri	http://training.esri.com/gateway/index.cfm?fa=catalog.webCourseDetail&courseid=2198	If you have not completed a GIS training session, it is highly recommend to complete this three hour course prior to teaching any GIS standard. You will need to use the free downloadable ArcGIS Online Map Viewer program for this course. Information is provided on the web site.
Labor and Employment Data	O Net online	http://www.onetonline.org	This site has current and projected labor data and job skills aligned to career cluster This site can help with all labor, skills and employment trend need to meet course standards in each course within this programs of study. Students will need some basic navigation steps.
Labor and Employment Data	US Bureau of Labor and Statics	www.bls.gov	This site has current and projected labor data and job skills aligned to career cluster. This site can help with all labor, skills and employment trend to meet standards for all courses within this programs of study. Students will need to now some of the basic employment terminology to navigate using this site.
National Geographic Education Collections	National Geographic	http://education.nationalgeographic.com/education/topics/pollution/?ar_a=1&audiences=1	This resource contains lesson plans, video and other materials for Grades 9-12 on energy topics
SAE Project Ideas	National FFA Organization	https://vimeo.com/161659349	This is a 2:25 minute video clip that can help students to meet student's needs in starting or maintining an SAE.



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Sample SAE Video Clips	National FFA Organization	https://vimeo.com/161986994 SAE - Woodworking - https://vimeo.com/162897443 SAE - Rabbits - https://vimeo.com/164128457 SAE - Horse Showing - https://vimeo.com/164628856 SAE - Aeroponics - https://vimeo.com/165335262	These video clips provide an excellent insight from a student's perspective the importance of having an SAE. Clips range from 1:25 to 3:01 minutes. These video clips will help meet Agriscience standard 4 or to any student starting a SAE. Copy the desired video address and paste in your web browser.
Science Based Research Summaries	Science Daily	www.sciencedaily.com	This is a great resource for science based information including but not limited research summaries from universities, and other scientific and professional organizations. Use this resource with any course standard requiring research. Mobil Apps are available.
Soil and Compost	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for standards dealing with soil such as irrigation and drainage, structures, etc.



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Stem Classroom Archive	National Science Teachers Association	www.nsta.org/publications/archive-stem.aspx	Forum for ideas, journal articles and resources for all courses within this program of study. A great resource for standards dealing with research.
STEM In Agriculture	The STEM Classroom	http://www.magnetmail.net/Actions/email_web_version.cfm?publish=newsletter&user_id=NSTA&message_id=3122560	Articles are at multiple levels of complexity, but offers online publications, news, sustainable and organic farming practices, alternative crop and livestock, and innovative marketing. Site also provides links for credible sources for each course in this POS. Click on the home link to access additional free materials.
TennesseeAg.org	FACCT (Farm Animal Care Coalition of Tennessee)	http://www.tennesseeag.org	TennesseeAg.org provides general Tennessee agricultural facts with resource and media links. Materials are at multiple levels of complexity to help the student to become proficient in the following: Introduction to Agricultural Science Grade 7 & 8 standard 1, Agriscience standard 1, Principles of Agribusiness standards 1, 4, Principles of Food Production standard 1 SAE (for Credit) standards 3, 10, and Passing Literacy OnWard (PLOW) program.
USDA Employment Trend and Forcast	United States Department of Agriculture	https://www.purdue.edu/usda/employment/science-and-engineering	Provides national agricultural employment trends and forecast. Can be used to help meet the course standards dealing with labor market information.
Water Management	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources to support water management topics covered withing the courses in this POS.



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Web Soil Survey	USDA - Natural Resource Conservation	http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm	This web soil survey provides soil data and information for general and farm use. Use this resources to help with soil assesment, conservation and engrineering applications.

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Alternative Energy	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for this POS.
ATV Safety	TN Coalition for ATV Safety	http://www.childrenshospital.vanderbilt.org/services.php?mid=9630	The Tennessee Coalition for ATV Safety website provides factual information, safety training programs, educational materials, and web links. Online and downloadable resource are available while some training programs may require additional fees and advanced planning. This resource can be used to meet Natural Resource Management standard 14 and any course safety standard where ATVs are used.
Economic Impact of Tennessee Agriculture and Forestry	Tennessee Department of Agriculture	http://www.tn.gov/agriculture/article/ag-eac-economic-impact	This website provides summative economic impact information with a link the Overview of Tennessee Agriculture. This site will help provided information for all standards needing state, regional, or county agriculture data.
Emerging Technologies in Agriculture	National FFA Organization	http://www.magnetmail.net/Actions/email_web_version.cfm?publish=newsletter&user_id=NSTA&message_id=3122560	This resource can be used to support the course standards dealing with the impact of technologies within the agricultural industry. This resource outlines lab activities and recommends video clips. AFRN teachers may need to gain access by using their MyFFA login.

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Resource	Author / Publisher	Location	Notes
Esri Education Community	Esri	http://edcommunity.esri.com	This website provides educational resources to teachers use GIS technology in their classroom, specifically for Natural Resource Management Standards 20 and 21, by providing: Case studies to help guide instruction and research projects; GeoMentors to help teachers and students use GIS; and sample GIS career videos.
Extension Publications	University of Tennessee	https://utextension.tennessee.edu/publications/Pages/default.aspx	Links to research publications, industry certifications, and best practices related to all AFRN programs of study.
FFA Learn Resources	National FFA Organization	https://www.ffa.org/FFAResources/ffalearn/Pages/default.aspx	FFA Learn has lesson plans and other resource materials grouped by topic and by career cluster area. These resources cover many subjects including Risk Management, Service Learning, Agri-Entrepreneurship and much more
Field Crops	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for the Plant and Soil Science course.
Freebies for Science Teachers	National Science Teachers Association	www.nsta.org/publications/freebies.aspx	Free resources for the K-12 classroom. This site includes resources for each course in this program of study. Includes free e-Newsletters full of science and STEM activities for the classroom.

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GeoTech Resources	National GeoTech Center of Excellence	http://www.geotechcenter.org/professional-resources.html	Geographic Information Science (GIS) geospatial technology teaching resources such as best practices, data sources, technology, textbooks, curriculum, organizations, case studies, and career pathways. These resources can be used to meet standards in Introduction to Geographic Information Sciences (GIS) course.
GIS Ag Maps	Applied GIS and Remote Sensing: Information, Data, and Analysis	http://www.gisagmaps.com	Show and provides information and data in order that GIS and remote sensing. Free downloadable GIS software. Can be used with Natural Resource Management standards 21 and 22.
GIS Best Practices by US Department of Agriculture	Esri	http://www.esri.com/library/bestpractices/agriculture.pdf	GIS Best Practices by the US Department of Agriculture. Several of these practices could be replicated on a local, regional or state level as an instructional activity or as student projects. This is a great resource to help teach Natural Resource Management Standards 20 and 21.
GIS Related Lessons	ARC Lessons - Esri	http://edcommunity.esri.com/Resources	Online Library of GIS-related lessons at various levels using various software to support Natural Resource Management Standards 20 and 21.
GIS Software and Materials	Esri	http://www.esri.com/software/arcgis/explorer	Shows and provides information and data in order that GIS and remote sensing. Can be used with Natural Resource Management standards 21 and 22.
Informational resource link for all POS	About.com	www.about.com	About.com is a valuable searchable resource for content that helps people to solve the large and small needs of everyday life.

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Introduction to Using GIS in the Classroom	Esri	http://training.esri.com/gateway/index.cfm?fa=catalog.webCourseDetail&courseid=2198	If you have not completed a GIS training session, it is highly recommend to complete this three hour course prior to teaching any GIS standard. You will need to use the free downloadable ArcGIS Online Map Viewer program for this course. Information is provided on the web site.
Labor and Employment Data	O Net online	http://www.onetonline.org	This site has current and projected labor data and job skills aligned to career cluster This site can help with all labor, skills and employment trend standards for all programs of study. Students will need some basic navigation steps.
Labor and Employment Data	US Bureau of Labor and Statics	www.bls.gov	This site has current and projected labor data and job skills aligned to career cluster This site can help with all labor, skills and employment trend standards. Students will need to now some of the basic employment terminology to navigate using this site.
Livestock and Pasture	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for topics dealing with water, pasture, soil conservation as related to the use of the land by animals.
National Geographic Education Collections	National Geographic	http://education.nationalgeographic.com/education/topics/pollution/?ar_a=1&audiences=1	This resource contains lesson plans, video and other materials for Grades 9-12 on animals, climate change, ecosystems, energy and geography topics.
SAE Project Ideas	National FFA Organization	https://vimeo.com/161659349	This is a 2:25 minute video clip that can help students to start or maintain an SAE.

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Resource	Author / Publisher	Location	Notes
Sample SAE Video Clips	National FFA Organization	<p>https://vimeo.com/161986994 SAE - Woodworking - https://vimeo.com/162897443 SAE - Rabbits - https://vimeo.com/164128457 SAE - Horse Showing - https://vimeo.com/164628856 SAE - Aeroponics - https://vimeo.com/165335262</p>	These video clips provide an excellent insight from a student's perspective the importance of having an SAE. Clips range from 1:25 to 3:01 minutes. These video clips will help meet Agriscience standard 4 or to any student starting a SAE. Copy the desired video address and paste in your web browser.
Science Based Research Summaries	Science Daily	www.sciencedaily.com	This is a great resource for science based information including but not limited research summaries from universities, and other scientific and professional organizations. Use this resource to support any course standard in this POS. Mobil Apps are available.
Soil and Compost	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for each course in this POS.

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Resource	Author / Publisher	Location	Notes
Stem Classroom Archive	National Science Teachers Association	www.nsta.org/publications/archive-stem.aspx	Forum for ideas, journal articles and resources for all course standards requiring research in this Programs of Study.
STEM In Agriculture	The STEM Classroom	http://www.magnetmail.net/Actions/email_web_version.cfm?publish=newsletter&user_id=NSTA&message_id=3122560	Articles are at multiple levels of complexity, but offers online publications, news, sustainable and organic farming practices, alternative crop and innovative marketing. Click on the home link to access additional free materials.
Sustainable Agriculture Information	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, sustainable and organic farming practices, alternative crop and livestock, and innovative marketing. Site also provides links for credible sources for each course in this POS.
TennesseeAg.org	FACCT (Farm Animal Care Coalition of Tennessee)	http://www.tennesseeag.org	TennesseeAg.org provides general Tennessee agricultural facts with resource and media links. Materials are at multiple levels of complexity to help the student to become proficient in the following: Introduction to Agricultural Science Grade 7 & 8 standard 1, Agriscience standard 1, Principles of Agribusiness standards 1, 4, Principles of Food Production standard 1 SAE (for Credit) standards 3, 10, and Passing Literacy OnWard (PLOW) program.

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TN Wildlife Federation Resources	Tennessee Wildlife Federation	http://www.tn.gov/TWRA/	The TWF provides educational materials, programs, and information on issues dealing with Tennessee’s wildlife and habitat issues. The website provides factual information about wildlife habitat and population impacts including epidemics. The site is easy to follow and provides links for additional facts and statistics to help meet several course standard expectations for Applied Environmental Science and Natural Resource Management.
TWRA On the Go App	Tennessee Wildlife Resources Agency	http://www.tn.gov/twra/article/mobile-web-information	The TWRA has gone native! Now sportsmen and outdoor enthusiasts have a guide to the great Tennessee outdoors right at their fingertips with a FREE new native mobile app available for Apple (iOS 6.0 and newer) and Android devices (Android OS 3.0 and newer).
US Farm Bill and Federal Legislation	United States Department of Agriculture	www.usda.gov/farmbill	Articles are at a high level of complexity, but archives can be accessed online and searched by topic to find informational texts on a variety of topics.
USDA Employment Trend and Forcast	United States Department of Agriculture	https://www.purdue.edu/usda/employment/science-and-engineering	Provides national agricultural employment trends and forcast. Can be used to help meet the course standards dealing with labor market information.
Water Management	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for each AFNR POS.

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Resource	Author / Publisher	Location	Notes
Web Soil Survey	USDA - Natural Resource Conservation	http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm	<p>This web soil survey provides soil data and information for general and farm use. Use this resources to help with soil assesment, conservation and engrineering applications.</p> <p>This resource will help support standards dealing with soils, plant growth, and environmental factors.</p>

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Resource	Author / Publisher	Location	Notes
ATV Safety	TN Coalition for ATV Safety	http://www.childrenshospital.vanderbilt.org/services.php?mid=9630	This resource can be used to meet any course safety standard where ATVs are used. The Tennessee Coalition for ATV Safety website provides factual information, safety training programs, educational materials, and web links. Online and downloadable resource are available while some training programs may require additional fees and advanced planning.
Economic Impact of Tennessee Agriculture and Forestry	Tennessee Department of Agriculture	http://www.tn.gov/agriculture/article/ag-eac-economic-impact	This website provides summative economic impact information with a link the Overview of Tennessee Agriculture. This site will help provided information for all standards needing state, regional, or county agriculture data.
Emerging Technologies in Agriculture	National FFA Organization	http://www.magnetmail.net/Actions/email_web_version.cfm?publish=newsletter&user_id=NSTA&message_id=3122560	This resource can be used to support the course standards dealing with impact and trend in technology. This resource outlines lab activities and recommends video clips. AFRN teachers may need to gain access by using their MyFFA login.
Esri Education Community	Esri	http://edcommunity.esri.com	This website provides educational resources to teachers use GIS technology in their classroom by providing: Case studies to help guide instruction and research projects; GeoMentors to help teachers and students use GIS; and sample GIS career videos. This resources will help provide and new skill sets with the marketing, production, projections, and presentation of data associated with the standards in the Principles of Food Production and Food Science and Safety courses.

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Resource	Author / Publisher	Location	Notes
Extension Publications	University of Tennessee	https://utextension.tennessee.edu/publications/Pages/default.aspx	Links to research publications, industry certifications, and best practices related to the Principles of Food Production course.
FFA Learn Resources	National FFA Organization	https://www.ffa.org/FFAResources/ffalearn/Pages/default.aspx	FFA Learn has lesson plans and other resource materials grouped by topic and by career cluster area. These resources cover many subjects included in this POS.
Field Crops	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for the Principles of Food Production Course.
Freebies for Science Teachers	National Science Teachers Association	www.nsta.org/publications/freebies.aspx	Free resources for the K-12 classroom. This site includes resources for each program of study. Includes free e-Newsletters full of science and STEM activities for the classroom.
GeoTech Resources	National GeoTech Center of Excellence	http://www.geotechcenter.org/professional-resources.html	Geographic Information Science (GIS) geospatial technology teaching resources such as best practices, data sources, technology, textbooks, curriculum, organizations, case studies, and career pathways.
GIS Ag Maps	Applied GIS and Remote Sensing: Information, Data, and Analysis	http://www.gisagmaps.com	Show and provides information and data in order that GIS and remote sensing. Free downloadable GIS software. Can be used with standards dealing with plant & animal production, marketing trends, and presentation of data.

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Resource	Author / Publisher	Location	Notes
GIS Best Practices by US Department of Agriculture	Esri	http://www.esri.com/library/bestpractices/agriculture.pdf	GIS Best Practices by the US Department of Agriculture. Several of these practices could be replicated on a local, regional or state level as an instructional activity or as student projects. Can be used with standards dealing with plant & animal production, marketing trends, and presentation of data.
GIS Related Lessons	ARC Lessons - Esri	http://edcommunity.esri.com/Resources	Online Library of GIS-related lessons at various levels using various software. Will help develop the skills to be able to use technology with standards dealing with plant & animal production, marketing trends, and presentation of data.
GIS Software and Materials	Esri	http://www.esri.com/software/arcgis/explorer	Shows and provides information and data in order that GIS and remote sensing. Can be used with standards dealing with plant & animal production, marketing trends, and presentation of data.
Informational resource link for all POS	About.com	www.about.com	About.com is a valuable searchable resource for content that helps people to solve the large and small needs of everyday life.
Introduction to Using GIS in the Classroom	Esri	http://training.esri.com/gateway/index.cfm?fa=catalog.webCourseDetail&courseid=2198	If you have not completed a GIS training session, it is highly recommend to complete this three hour course prior to teaching any GIS standard. You will need to use the free downloadable ArcGIS Online Map Viewer program for this course. Information is provided on the web site.

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Labor and Employment Data	O Net online	http://www.onetonline.org	This site has current and projected labor data and job skills aligned to career cluster This site can help with all labor, skills and employment trend standards for all programs of study. Students will need some basic navigation steps.
Labor and Employment Data	US Bureau of Labor and Statics	www.bls.gov	This site has current and projected labor data and job skills aligned to career cluster This site can help with all labor, skills and employment trend standards for all programs of study. Students will need to now some of the basic employment terminology to navigate using this site.
Livestock and Pasture	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for each AFNR POS.
Local Food Systems	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for each course in this POS.
Market, Business & Risk Management	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for each course in this POS.

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Organic Farming	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for each course in this POS.
SAE Project Ideas	National FFA Organization	https://vimeo.com/161659349	This is a 2:25 minute video clip that can help students to start or maintain an SAE.
Sample SAE Video Clips	National FFA Organization	https://vimeo.com/161986994 SAE - Woodworking - https://vimeo.com/162897443 SAE - Rabbits - https://vimeo.com/164128457 SAE - Horse Showing - https://vimeo.com/164628856 SAE - Aeroponics - https://vimeo.com/165335262	These video clips provide an excellent insight from a student's perspective the importance of having an SAE. Clips range from 1:25 to 3:01 minutes. These video clips will help meet Agriscience standard 4 or to any student starting a SAE. Copy the desired video address and paste in your web browser.

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Resource	Author / Publisher	Location	Notes
Science Based Research Summaries	Science Daily	www.sciencedaily.com	This is a great resource for science based information including but not limited research summaries from universities, and other scientific and professional organizations. Use this resource with any AFNR course. Mobil Apps are available.
Soil and Compost	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for the Principles of Food Production course.
Stem Classroom Archive	National Science Teachers Association	www.nsta.org/publications/archive-stem.aspx	Forum for ideas, journal articles and resources for all courses in this POS that requires research.
STEM In Agriculture	The STEM Classroom	http://www.magnetmail.net/Actions/email_web_version.cfm?publish=newsletter&user_id=NSTA&message_id=3122560	Articles are at multiple levels of complexity, but offers online publications, news, sustainable and organic farming practices, alternative crop and livestock, and innovative marketing. Site also provides links for credible sources for each course in this POS. Click on the home link to access additional free materials.
Sustainable Agriculture Information	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, sustainable and organic farming practices, alternative crop and livestock, and innovative marketing. Site also provides links for credible sources for the Principles of Food Production course.

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Resource	Author / Publisher	Location	Notes
TennesseeAg.org	FACCT (Farm Animal Care Coalition of Tennessee	http://www.tennesseeag.org	TennesseeAg.org provides general Tennessee agricultural facts with resource and media links. Materials are at multiple levels of complexity to help the student to become proficient in the Principles of Food Production standard 1.
USDA Employment Trend and Forcast	United States Department of Agriculture	https://www.purdue.edu/usda/employment/science-and-engineering	Provides national agricultural employment trends and forcast. Can be used to help meet the course standards dealing with labor market information.
Web Soil Survey	USDA - Natural Resource Conservation	http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm	This web soil survey provides soil data and information for general and farm use. Use this resources to help with soil assesment, conservation and engrineering applications. This resource will help support standards dealing with soils, plant growth, and environmental factors in the Principles of Food Producation course.

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Resource	Author / Publisher	Location	Notes
ATV Safety	TN Coalition for ATV Safety	http://www.childrenshospital.vanderbilt.org/services.php?mid=9630	This resource can be used to meet any course safety standard where ATVs are used. The Tennessee Coalition for ATV Safety website provides factual information, safety training programs, educational materials, and web links. Online and downloadable resource are available while some training programs may require additional fees and advanced planning.
Economic Impact of Tennessee Agriculture and Forestry	Tennessee Department of Agriculture	http://www.tn.gov/agriculture/article/ag-eac-economic-impact	This website provides summative economic impact information with a link the Overview of Tennessee Agriculture. This site will help provided information for all standards needing state, regional, or county agriculture data.
Emerging Technologies in Agriculture	National FFA Organization	http://www.magnetmail.net/Actions/email_web_version.cfm?publish=newsletter&user_id=NSTA&message_id=3122560	This resource can be used to support the course standards dealing with the new and emerging technology trends. This resource outlines lab activities and recommends video clips. AFRN teachers may need to gain access by using their MyFFA login.
Energy Alternatives	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for each course in this program of study.
Esri Education Community	Esri	http://edcommunity.esri.com	This website provides educational resources to teachers use GIS technology in their classroom by providing: Case studies to help guide instruction and research projects; GeoMentors to help teachers and students use GIS; and sample GIS career videos.

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Resource	Author / Publisher	Location	Notes
Extension Publications	University of Tennessee	https://utextension.tennessee.edu/publications/Pages/default.aspx	Links to research publications, industry certifications, and best practices related to all AFRN programs of study.
FFA Learn Resources	National FFA Organization	https://www.ffa.org/FFAResources/ffalearn/Pages/default.aspx	FFA Learn has lesson plans and other resource materials grouped by topic and by career cluster area. These resources cover many subjects including Agri-Entrepreneurship.
Field Crops	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for each to support both Principles of Plant Science and Hydroculture and the Statewide Dual Credit Introduction to Plant Science (Greenhouse Management) courses.
Freebies for Science Teachers	National Science Teachers Association	www.nsta.org/publications/freebies.aspx	Free resources for the K-12 classroom. This site includes resources for each program of study. Includes free e-Newsletters full of science and STEM activities for the classroom.
GeoTech Resources	National GeoTech Center of Excellence	http://www.geotechcenter.org/professional-resources.html	Geographic Information Science (GIS) geospatial technology teaching resources such as best practices, data sources, technology, textbooks, curriculum, organizations, case studies, and career pathways. These resources can be used to meet standards in Introduction to Geographic Information Sciences (GIS) course.
GIS Ag Maps	Applied GIS and Remote Sensing: Information, Data, and Analysis	http://www.gisagmaps.com	Show and provides information and data in order that GIS and remote sensing. Free downloadable GIS software.

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GIS Best Practices by US Department of Agriculture	Esri	http://www.esri.com/library/bestpractices/agriculture.pdf	GIS Best Practices by the US Department of Agriculture. Several of these practices could be replicated on a local, regional or state level as an instructional activity or as student projects.
GIS Related Lessons	ARC Lessons - Esri	http://edcommunity.esri.com/Resources	Online Library of GIS-related lessons at various levels using various software.
GIS Software and Materials	Esri	http://www.esri.com/software/arcgis/explorer	Shows and provides information and data in order that GIS and remote sensing.
Greenhouse Plant Information	Electronic Grower Resource Online	www.e-gro.org/alert.php	E-Grow newsletter is to inform greenhouse growers know of insect, disease, nutritional, or physiological growth situations that are occurring in production greenhouses. Articles are searchable. Will help students to become proficient in Principles of Plant Science and Hydroculture standards 12 and 13, Greenhouse Management standards 3, 11, 12, 13, 14, 22, 23, 24 and 25
Horticulture	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for each course in this POS.
Informational resource link for all POS	About.com	www.about.com	About.com is a valuable searchable resource for content that helps people to solve the large and small needs of everyday life.

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Resource	Author / Publisher	Location	Notes
Introduction to Using GIS in the Classroom	Esri	http://training.esri.com/gateway/index.cfm?fa=catalog.webCourseDetail&courseid=2198	If you have not completed a GIS training session, it is highly recommend to complete this three hour course prior to teaching any GIS standard. You will need to use the free downloadable ArcGIS Online Map Viewer program for this course. Information is provided on the web site.
Labor and Employment Data	O Net online	http://www.onetonline.org	This site has current and projected labor data and job skills aligned to career cluster This site can help with all labor, skills and employment trend standards for all programs of study. Students will need some basic navigation steps.
Labor and Employment Data	US Bureau of Labor and Statics	www.bls.gov	This site has current and projected labor data and job skills aligned to career cluster This site can help with all labor, skills and employment trend standards for all programs of study. Students will need to now some of the basic employment terminology to navigate using this site.
Market, Business & Risk Management	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for the level three and four course in this POS.
Plant taxonomy and Characteristics	Flora of North America	http://floranorthamerica.org	Flora of North America is a reference source, information on the names, taxonomic relationships, continent-wide distributions, and morphological characteristics of all plants native and naturalized found in North America north of Mexico. Text is technical and knowledge of terminology is needed.

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Resource	Author / Publisher	Location	Notes
SAE Project Ideas	National FFA Organization	https://vimeo.com/161659349	This is a 2:25 minute video clip that can help students start or maintain an SAE.
Sample SAE Video Clips	National FFA Organization	<p>https://vimeo.com/161986994 SAE - Woodworking -</p> <p>https://vimeo.com/162897443 SAE - Rabbits -</p> <p>https://vimeo.com/164128457 SAE - Horse Showing -</p> <p>https://vimeo.com/164628856 SAE - Aeroponics -</p> <p>https://vimeo.com/165335262</p>	These video clips provide an excellent insight from a student's perspective the importance of having an SAE. Clips range from 1:25 to 3:01 minutes. These video clips will help meet Agriscience standard 4 or to any student starting a SAE. Copy the desired video address and paste in your web browser.
Science Based Research Summaries	Science Daily	www.sciencedaily.com	This is a great resource for science based information including but not limited research summaries from universities, and other scientific and professional organizations. Use this resource with any course requiring research. Mobil Apps are available.
Soil and Compost	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for standards dealing with soil and plant growth.

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Stem Classroom Archive	National Science Teachers Association	www.nsta.org/publications/archive-stem.aspx	Forum for ideas, journal articles and resources for all courses requiring research.
STEM In Agriculture	The STEM Classroom	http://www.magnetmail.net/Actions/email_web_version.cfm?publish=newsletter&user_id=NSTA&message_id=3122560	Articles are at multiple levels of complexity, but offers online publications, news, sustainable and organic farming practices, alternative crop and livestock, and innovative marketing. Site also provides links for credible sources for each course in this POS. Click on the home link to access additional free materials.
Technology: Aquaponics	The Ciese Collaborative Project	http://www.ciese.org/curriculum/aquaponics/lp_products/on.html	This resource provides technical information for set up, design and activities related to aquaponics. The text has multiple levels of complexity, but broken down into smaller segments for secondary understanding. This reference can be used with Principles of Plant Science and Hydroculture standards 18-22; Landscaping and Turf Science standards 15, 20, Greenhouse Management standards 26-27.
USDA Employment Trend and Forcast	United States Department of Agriculture	https://www.purdue.edu/usda/employment/science-and-engineering	Provides national agricultural employment trends and forcast. Can be used to help meet the course standards dealing with labor market information.
Water Management	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for each course in this POS.

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Animal Health Care	Infovets.com – Animal Health Publishers	http://www.infovets.com/styl/es/?page=home%2Ehtm	A series of animal health manuals and on-line resources written by veterinarians for dog, cat, and horse owners, as well as beef and cattle ranchers, and dairy producers
ATV Safety	TN Coalition for ATV Safety	http://www.childrenshospitals.vanderbilt.org/services.php?mid=9630	This resource can be used to meet any course safety standard where ATVs are used. The Tennessee Coalition for ATV Safety website provides factual information, safety training programs, educational materials, and web links. Online and downloadable resource are available while some training programs may require additional fees and advanced planning
Carnivore Gross Anatomy	University of Minnesota – College of Veterinary Medicine	http://vanat.cvm.umn.edu	This is an excellent website that provides online self-test, including muscle systems and links to other online resources from other veterinary colleges. Information is at a high level of complexity, but broken down into smaller segments for secondary understanding.
Dog Owner Regulations and Laws	American Kennel Club	http://www.akc.org/dogowner/government_relations/index.cfm	Can be used to meet standards 6, 7, 12, and 13 in Small Animal Science
Economic Impact of Tennessee Agriculture and Forestry	Tennessee Department of Agriculture	http://www.tn.gov/agriculture/article/ag-eac-economic-impact	This website provides summative economic impact information with a link the Overview of Tennessee Agriculture. This site will help provided information for all standards needing state, regional, or county agriculture data.

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Emerging Technologies in Agriculture	National FFA Organization	http://www.magnetmail.net/Actions/email_web_version.cfm?publish=newsletter&user_id=NSTA&message_id=3122560	This resource can be used to support course standards dealing with new and emerging technologies. This resource outlines lab activities and recommends video clips. AFRN teachers may need to gain access by using their MyFFA login.
Esri Education Community	Esri	http://edcommunity.esri.com	This website provides educational resources to teachers use GIS technology in their classroom by providing: Case studies to help guide instruction and research projects; GeoMentors to help teachers and students use GIS; and sample GIS career videos.
Extension Publications	University of Tennessee	https://utextension.tennessee.edu/publications/Pages/default.aspx	Links to research publications, industry certifications, and best practices related to all AFRN programs of study.
FFA Learn Resources	National FFA Organization	https://www.ffa.org/FFAResources/ffalearn/Pages/default.aspx	FFA Learn has lesson plans and other resource materials grouped by topic and by career cluster area. These resources cover many subjects including Risk Management, Agri-Entrepreneurship and more.
Freebies for Science Teachers	National Science Teachers Association	www.nsta.org/publications/freebies.aspx	Free resources for the K-12 classroom. This site includes resources for each program of study. Includes free e-Newsletters full of science and STEM activities for the classroom.
GeoTech Resources	National GeoTech Center of Excellence	http://www.geotechcenter.org/professional-resources.html	Geographic Information Science (GIS) geospatial technology teaching resources such as best practices, data sources, technology, textbooks, curriculum, organizations, case studies, and career pathways. These resources can be used to meet standards in Introduction to Geographic Information Sciences (GIS) course.

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GIS Ag Maps	Applied GIS and Remote Sensing: Information, Data, and Analysis	http://www.gisagmaps.com	Show and provides information and data in order that GIS and remote sensing. Free downloadable GIS software.
GIS Best Practices by US Department of Agriculture	Esri	http://www.esri.com/library/bestpractices/agriculture.pdf	GIS Best Practices by the US Department of Agriculture. Several of these practices could be replicated on a local, regional or state level as an instructional activity or as student projects. This is a great resource to help introduce GIS technology within several POS.
GIS Related Lessons	ARC Lessons - Esri	http://edcommunity.esri.com/Resources	Online Library of GIS-related lessons at various levels using various software.
GIS Software and Materials	Esri	http://www.esri.com/software/arcgis/explorer	Shows and provides information and data in order that GIS and remote sensing being used in the animal science industry.
Imagine (X-ray) Anatomy	University of Illinois – College of Veterinary Medicine	http://vetmed.illinois.edu/courses/imaging_anatomy	The Imaging Anatomy web site has basic and normal imaging (X-Ray) anatomy of domestic animals. Students will need to have a solid understanding of canine, feline, equine and bovine anatomy. Site provides information that can be used in the Animal and Veterinary Science Program of Study
Informational resource link for all POS	About.com	www.about.com	About.com is a valuable searchable resource for content that helps people to solve the large and small needs of everyday life.

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Introduction to Using GIS in the Classroom	Esri	http://training.esri.com/gateway/index.cfm?fa=catalog.webCourseDetail&courseid=2198	If you have not completed a GIS training session, it is highly recommend to complete this three hour course prior to teaching any GIS standard. You will need to use the free downloadable ArcGIS Online Map Viewer program for this course. Information is provided on the web site.
Labor and Employment Data	O Net online	http://www.onetonline.org	This site has current and projected labor data and job skills aligned to career cluster This site can help with all labor, skills and employment trend standards for all programs of study. Students will need some basic navigation steps.
Labor and Employment Data	US Bureau of Labor and Statics	www.bls.gov	This site has current and projected labor data and job skills aligned to career cluster This site can help with all labor, skills and employment trend standards for all programs of study. Students will need to now some of the basic employment terminology to navigate using this site.
Livestock and Pasture	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for the large aniaml science course.
SAE Project Ideas	National FFA Organization	https://vimeo.com/161659349	This is a 2:25 minute video clip that can help students to start or maintain an SAE.

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Resource	Author / Publisher	Location	Notes
Sample SAE Video Clips	National FFA Organization	SAE - Goats - https://vimeo.com/161986994 SAE - Woodworking - https://vimeo.com/162897443 SAE - Rabbits - https://vimeo.com/164128457 SAE - Horse Showing - https://vimeo.com/164628856	These video clips provide an excellent insight from a student's perspective the importance of having an SAE. Clips range from 1:25 to 3:01 minutes. These video clips will help meet Agriscience standard 4 or to any student starting a SAE. Copy the desired video address and paste in your web browser.
Science Based Research Summaries	Science Daily	www.sciencedaily.com	This is a great resource for science based information including but not limited research summaries from universities, and other scientific and professional organizations. Use this resource with any course requiring research. Mobil Apps are available.
Stem Classroom Archive	National Science Teachers Association	www.nsta.org/publications/archive-stem.aspx	Forum for ideas, journal articles and resources for all course standards requiring research.
STEM In Agriculture	The STEM Classroom	http://www.magnetmail.net/Actions/email_web_version.cfm?publish=newsletter&user_id=NSTA&message_id=3122560	Articles are at multiple levels of complexity, but offers online publications, news, sustainable and organic farming practices, alternative crop and livestock, and innovative marketing. Site also provides links for credible sources for eachcourse. Click on the home link to access additional free materials.

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Resource	Author / Publisher	Location	Notes
Sustainable Agriculture Information	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, sustainable and organic farming practices, alternative crop and livestock, and innovative marketing. Site also provides links for credible sources for each AFNR POS.
TennesseeAg.org	FACCT (Farm Animal Care Coalition of Tennessee)	http://www.tennesseeag.org	TennesseeAg.org provides general Tennessee agricultural facts with resource and media links. Materials are at multiple levels of complexity to help the student to become proficient in the care and production of food animals.
US Farm Bill and Federal Legislation	United States Department of Agriculture	www.usda.gov/farmbill	Articles are at a high level of complexity, but archives can be accessed online and searched by topic to find informational texts on a variety of topics.
USDA Employment Trend and Forecast	United States Department of Agriculture	https://www.purdue.edu/usda/employment/science-and-engineering	Provides national agricultural employment trends and forecast. Can be used to help meet the course standards dealing with labor market information.
Veterinarians On Call	Zoetis services LLC	https://www.youtube.com/user/veterinariansoncall	Over 100 three to YouTube clips covering over 100 topics related to care of farm animals and companion animals. These three to eight minute clips can be used to help support several of the Veterinary and Animal Science POS course standards.
Veterinary Career and Rabies Identification and Prevention	The American Veterinary Medical Association, with a kind contribution from GlaxoSmithKline	http://avma.ait.net	Instructional DVDs to educators/mentors of students interested in the veterinary field. If you would like to order a free copy for classroom use, visit the website.

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Veterinary Technician News	National Association of Veterinary Technicians in America	http://www.navta.net	Provides links to credible articles, case studies and online training materials including videos that can be used with Small and Large Animal Science and the veterinary Science courses. Articles and case studies are at a high level of complexity, but achievable with some scaffolding.
Water Management	National Center for Appropriate Technology (NCAT) / National Sustainable Agriculture Information Service	https://attra.ncat.org	Articles are at multiple levels of complexity, but offers online publications, news, and video clips. Site also provides links for credible sources for each AFNR POS.
Web Soil Survey	USDA - Natural Resource Conservation	http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm	This web soil survey provides soil data and information for general and farm use. Use this resources to help with soil assesment, conservation and engneering applications. This resource will help support standards dealing with soils, plant growth, and environmental factors.