



FFA

Alternative Energy Specialist

Skills Needed

- Adaptability
- Technical Skills
- Problem-Solving

Foundational SAE Ideas

Research educational pathways in renewable energy technologies at local universities.

Research safety needed for working with solar panels and other renewable energy systems.

Immersion SAE Ideas

Intern at a renewable energy company.

Conduct research on the efficiency of different renewable energy systems in agricultural settings.



FFA

Analytical Chemist

Skills Needed

- Laboratory Skills
- Safety Awareness
- Critical Thinking

Foundational SAE Ideas

Research industries where analytical chemists are employed, such as agriculture, pharmaceuticals and environmental sciences.

Identify potential hazards in a laboratory environment (e.g., chemical spills, exposure to toxic substances).

Immersion SAE Ideas

Conduct a research project focused on developing methods for detecting contaminants in agricultural products.

Partner with a local nonprofit organization focused on sustainable agriculture to conduct water quality testing in nearby agricultural areas.



FFA

Aquaculture Hatchery Manager

Skills Needed

- Leadership
- Organization
- Interpersonal Skills

Foundational SAE Ideas

Research the role of hatchery managers in the aquaculture industry.

Create a personal budget to manage income and track expenses.

Immersion SAE Ideas

Start an aquaculture program in your local agriculture department.

Partner with your local game and fish department to raise trout in your agriculture program and release into local lakes.



FFA

Aquaculturist

Skills Needed

- Entrepreneurial Spirit
- Resource Management
- Environmental Awareness

Foundational SAE Ideas

Research the role of aquaculture in sustainable agriculture and food security.

Develop a resume and cover letter tailored to careers of interest. Practice interview skills through mock interviews with industry professionals.

Immersion SAE Ideas

Start a small-scale aquaponics business and sell fresh fish and vegetables locally.

Conduct a research project on optimizing growth rates and feed conversion ratios in tilapia or trout raised in recirculating aquaculture systems.



Biological Technician

Skills Needed

- Data Collection
- Analytical Thinking
- Safety Awareness

Foundational SAE Ideas

Research the application of biological techniques in agriculture.

Tour a biological research lab and shadow a biological technician.

Immersion SAE Ideas

Work at a local environmental consulting firm or agricultural research station.

Conduct a research project evaluating the effectiveness of organic farming practices.


FFA


Biorefining Manager

Skills Needed

- Quality Control
- Leadership
- Problem-Solving

Foundational SAE Ideas

Learn about safety procedures for handling chemicals and operating machinery in a biorefining facility.

Create a professional portfolio showcasing your skills, projects and accomplishments.

Immersion SAE Ideas

Intern at a local biorefinery or bioenergy production facility.

Research the fuel efficiency of different types of biomass.


FFA


Brand Manager

Skills Needed

- Creativity
- Strategic Thinking
- Leadership

Foundational SAE Ideas

Research and develop a budget plan for a hypothetical brand marketing campaign.

Study the role of branding in agricultural products, including how effective branding can impact market success and consumer perception.

Immersion SAE Ideas

Intern with a marketing or branding agency.

Develop and manage a branding project for your FFA chapter.


FFA


Chief Executive Officer

Skills Needed

- Visionary Leadership
- Conflict Resolution
- Decision-Making

Foundational SAE Ideas

Shadow a CEO of a local agricultural business.

Research and report on local agricultural businesses, such as farmers markets or co-ops.

Immersion SAE Ideas

Start a business that connects local farms directly with consumers.

Start and manage a student-run business focused on agriculture, such as a school garden.


FFA



Chief Operating Officer

Skills Needed

- Management
- Logistics
- Strategic Thinking

Foundational SAE Ideas

Identify a process within a school or community organization that could be improved. Propose and implement changes to enhance efficiency.

Shadow a local business manager or operations director.

Immersion SAE Ideas

Intern with the operations team of an agricultural company.

Start and manage a student-run business focused on agriculture, such as a school garden.


FFA


Climate Change Analyst

Skills Needed

- Research Skills
- Problem-Solving
- Critical Thinking

Foundational SAE Ideas

Research and write a report on current climate policies and their effectiveness in mitigating climate change.

Research how different climate scenarios impact crop yields.

Immersion SAE Ideas

Conduct a research project on local environmental issues, such as pollution or habitat loss.

Develop a project where students modify a school garden to adapt to simulated climate change scenarios.


FFA


Conservation Officer

Skills Needed

- Passion for Conservation
- Patience
- Decision-Making

Foundational SAE Ideas

Learn about field safety practices, including first aid and emergency response, to handle situations in natural or remote environments.

Shadow a conservation agency or environmental organization.

Immersion SAE Ideas

Develop and maintain natural areas at your local high school.

Help teach hunter or boater safety in your community.


FFA


Conservationist

Skills Needed

- Passion for Conservation
- Environmental Stewardship
- Communication

Foundational SAE Ideas

Research how sustainable agricultural practices contribute to conservation and environmental protection.

Learn safety protocols for fieldwork.

Immersion SAE Ideas

Research the impact of conservation practices on soil health.

Start a green campus initiative at your high school focused on reducing waste and improving energy efficiency.


FFA



Ecologist

Skills Needed

- Data Analysis
- Conservation
- Adaptability

Foundational SAE Ideas

Research sustainable agriculture projects that integrate ecological principles.

Visit a local nature reserve or wildlife center.

Immersion SAE Ideas

Start a business specializing in sustainable landscaping practices, focusing on native plantings and habitat restoration.

Start a club where students monitor and document local wildlife and plant species on school grounds.


FFA


Environmental Compliance Officer

Skills Needed

- Auditing
- Analytical Thinking
- Environmental Awareness

Foundational SAE Ideas

Develop a mock plan for responding to environmental emergencies, such as spills or contamination events, including procedures and safety measures.

Research environmental compliance issues specific to agriculture.

Immersion SAE Ideas

Create resources to help farmers and agricultural businesses understand and meet environmental compliance requirements.

Research the effects of environmental regulations on agricultural practices.


FFA


Environmental Educator

Skills Needed

- Curriculum Development
- Educational Technology
- Content Knowledge

Foundational SAE Ideas

Develop educational materials on sustainable agricultural practices.

Shadow an environmental educator.

Immersion SAE Ideas

Create educational resources for your local extension office to use.

Start projects that focus on improving sustainability at your school, such as recycling programs.


FFA


Environmental Engineer

Skills Needed

- Environmental Impact Assessment
- Problem-Solving
- Technical Aptitude

Foundational SAE Ideas

Research solutions for environmental challenges in agriculture.

Shadow an environmental engineer.

Immersion SAE Ideas

Develop and implement water conservation projects in your local community.

Research the effectiveness of various soil and water conservation technologies in agricultural settings.


FFA



Environmental Science and Protection Technician

Skills Needed

- Report Writing
- Data Analysis
- Data Collection

Foundational SAE Ideas

Conduct an assessment of your school's environmental impact.

Research the qualifications, skills and job prospects for environmental science and protection technicians.

Immersion SAE Ideas

Start a composting project in your agriculture department.

Research the effects of different types of composting.


FFA


Environmental Scientist and Specialist

Skills Needed

- Environmental Impact Assessment
- Safety Awareness
- Data Analysis

Foundational SAE Ideas

Investigate how different agricultural practices impact the environment.

Conduct an interview with an environmental scientist or specialist.

Immersion SAE Ideas

Develop and deliver educational programs (PowerPoint slides, Craft, Game, etc.) on environmental science for elementary students.

Develop and manage sustainability initiatives in your local school and community.


FFA


Farm Program Coordinator

Skills Needed

- Program Development
- Organization
- Collaboration

Foundational SAE Ideas

Learn about safety procedures for organizing and managing farm-related events.

Develop a mock budget for a farm program.

Immersion SAE Ideas

Start and manage a community garden in your local community.

Manage a student-run farm program within your agriculture department.


FFA


Forester

Skills Needed

- GIS and Remote Sensing
- Problem-Solving
- Environmental Stewardship

Foundational SAE Ideas

Develop a guide for identifying different tree species.

Explore options for obtaining safety certifications.

Immersion SAE Ideas

Organize community tree planting events.

Research how urban forestry contributes to community health and well-being.


FFA



Game Warden

Skills Needed

- Conservation Practices
- First Aid/CPR
- Surveillance Techniques

Foundational SAE Ideas

Shadow a game warden.

Research and create profiles of game wardens working in different regions or types of agencies.

Immersion SAE Ideas

Develop a business offering guided wildlife tours and outdoor adventure experiences.

Help with conservation and management activities at local wildlife sanctuaries or nature reserves.


FFA


Geologist

Skills Needed

- Field Mapping and Surveying
- Environmental Stewardship
- Analytical Skills

Foundational SAE Ideas

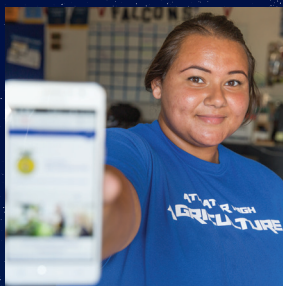
Research how geological factors impact farming practices and land use.

Take a field trip or virtual tour to a geological site.

Immersion SAE Ideas

Research the impact of soil erosion on agricultural productivity and land management strategies.

Start a service that offers soil testing and analysis for the school garden or local community.


FFA


Graphic Designer

Skills Needed

- Creativity
- Attention to Detail
- Time Management

Foundational SAE Ideas

Create a series of posters for agricultural events or awareness campaigns.

Create a financial plan for pursuing a career in graphic design.

Immersion SAE Ideas

Manage the marketing and design posters for your local FFA chapter.

Take on a freelance graphic design project for a local agricultural business or organization.


FFA


Heavy Duty Equipment Technician

Skills Needed

- Troubleshooting and Repair
- Equipment Operation and Maintenance
- Safety Regulations

Foundational SAE Ideas

Create a manual detailing common repairs and maintenance procedures for heavy-duty agricultural equipment.

Shadow a professional heavy-duty equipment technician.

Immersion SAE Ideas

Work for the agriculture department maintaining and repairing equipment.

Work for an agriculture implement dealership.


FFA



Hydrologist

Skills Needed

- Analytical Skills
- Problem-Solving
- Fieldwork Skills

Foundational SAE Ideas

Learn about grant writing and create a mock grant proposal.

Develop a plan to manage personal finances related to the career.

Immersion SAE Ideas

Conduct a study on the water quality in local rivers, lakes or reservoirs.

Develop and implement a water conservation project for your school.

FFA


Hydroponics Producer

Skills Needed

- Environmental Monitoring
- System Design and Installation
- Nutrient Solution Management

Foundational SAE Ideas

Compare different types of hydroponic systems and create an infographic to share the information.

Tour local hydroponics operations.

Immersion SAE Ideas

Start your own business growing and selling hydroponic vegetables.

Research the effectiveness of different types of hydroponic systems.

FFA


Integrated Solutions Consultant

Skills Needed

- Technical Skills
- Documentation and Record Keeping
- Project Management

Foundational SAE Ideas

Research agricultural technologies in different countries.

Find a mentor who works as an integrated solutions consultant in agriculture. Meet regularly to discuss career goals.

Immersion SAE Ideas

Research and compare the effectiveness of various precision agriculture technologies in improving farm productivity and efficiency.

Investigate different soil sampling methods and their influence on crop yield.

FFA


Intern

Skills Needed

- Software Proficiency
- Eagerness to Learn
- Time Management

Foundational SAE Ideas

Shadow different departments within an agricultural business.

Research internships available for high school and college students in your area of interest.

Immersion SAE Ideas

Work for a local agricultural business in multiple and diverse areas.

Work as a teacher's assistant for the agriculture department.

FFA



Marine Biologist

Skills Needed

- Species Identification and Classification
- Field Research
- Data Analysis

Foundational SAE Ideas

Research and analyze different funding sources, such as grants and scholarships, for marine biology research.

Develop a marine biology career plan.

Immersion SAE Ideas

Start a fish or shellfish farm.

Research how runoff from agricultural activities impacts coastal marine environments.


FFA


Nutrient Management/Waste Management Specialist

Skills Needed

- Sampling and Analysis
- Sustainable Practices
- Analytical Skills

Foundational SAE Ideas

Create a career pathway map for nutrient and waste management.

Develop a savings plan to cover educational expenses.

Immersion SAE Ideas

Develop and sell DIY composting kits.

Manage the school garden's nutrient needs. Conduct soil testing, fertilization and composting activities.


FFA


Policy Analyst

Skills Needed

- Data Collection and Interpretation
- Legislative Knowledge
- Relationship Building

Foundational SAE Ideas

Research a current agricultural or environmental policy issue.

Draft a mock proposal for a new policy or a policy change in an area of interest.

Immersion SAE Ideas

Intern with a government agency.

Start a blog that analyzes current agricultural or environmental policies.


FFA


Process Engineer

Skills Needed

- Process Design and Optimization
- Safety Awareness
- Adaptability

Foundational SAE Ideas

Research various specializations within the field of process engineering.

Create a plan outlining the steps required to become a process engineer.

Immersion SAE Ideas

Work at an agricultural manufacturing company.

Organize and compete in a school-based engineering fair.


FFA



Regulatory Scientist

Skills Needed

- Data Analysis and Interpretation
- Technical Writing
- Attention to Detail

Foundational SAE Ideas

Research current trends in agricultural regulations.
Tour an agricultural research facility or extension office.

Immersion SAE Ideas

Research how changes in regulations affect agricultural practices and develop presentations to educate the public.

Oversee a compliance project for a school farm or garden, ensuring it adheres to relevant regulations or best practices.


FFA


Research and Development Manager

Skills Needed

- Team Supervision
- Collaboration
- Leadership

Foundational SAE Ideas

Research recent innovations in agriculture.

Develop a plan outlining the steps to become a research and development manager.

Immersion SAE Ideas

Research how new technologies, such as drones, sensors or biotechnology, are affecting farming practices and develop presentations to educate the public.

Create a prototype for a new agricultural tool or device.


FFA


Research and Development Technician

Skills Needed

- Laboratory Skills
- Data Collection and Analysis
- Safety and Compliance Standards

Foundational SAE Ideas

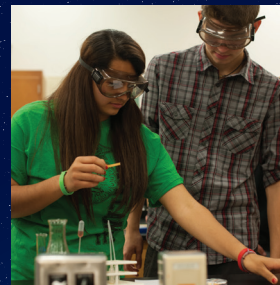
Research different types of PPE used in laboratory settings.

Research certification programs relevant to R&D technicians.

Immersion SAE Ideas

Work at an agricultural research lab.

Host an annual science fair at your school focused on research and development in agriculture.


FFA


Research Associate

Skills Needed

- Research Skills
- Writing
- Statistical Analysis

Foundational SAE Ideas

Develop a presentation on a research topic or a project you have worked on.

Perform a basic safety inspection of your school's agricultural science lab.

Immersion SAE Ideas

Develop a research-based agricultural product.

Conduct research on the effectiveness of sustainable farming practices.


FFA



Research Scientist

Skills Needed

- Advanced Research Techniques
- Grant Proposal Writing
- Knowledge in Field of Study

Foundational SAE Ideas

Create a budget for a hypothetical research project.
Research the effects of genetically modified crops on agriculture.

Immersion SAE Ideas

Launch a blog or podcast focused on agricultural research.

Create educational resources that explain a key agricultural concept or practice.


FFA


Restoration Specialist

Skills Needed

- Project Management
- Adaptability
- Collaboration

Foundational SAE Ideas

Research various restoration techniques.
Develop a mock proposal for a local restoration project.

Immersion SAE Ideas

Develop and manage a community restoration project.
Research the impact of invasive species on local ecosystems and restoration efforts.


FFA


Saltwater Husbandry Technician

Skills Needed

- Water Quality Analysis
- Data Collection and Record Keeping
- Problem-Solving

Foundational SAE Ideas

Create a comprehensive care manual for a specific saltwater species.

Create a budget plan for maintaining a saltwater aquarium.

Immersion SAE Ideas

Start and maintain saltwater fish tanks in your agriculture department.

Develop and sell custom-designed saltwater aquariums.


FFA


Social Media Strategist

Skills Needed

- Social Media Knowledge
- Creativity
- Analytical Skills

Foundational SAE Ideas

Analyze the social media strategy of an agricultural company.

Develop strategies for managing and responding to online harassment or negative comments while maintaining a professional image.

Immersion SAE Ideas

Assist an agricultural business or organization with their social media accounts.

Create and run social media campaigns to raise awareness about local community issues or events.


FFA



Soil Scientist

Skills Needed

- Soil Sampling and Analysis
- Nutrition Management
- Environmental Knowledge

Foundational SAE Ideas

Study the different components of soil and their importance to plant health, and create an infographic.

Identify different soil types and their best uses for agriculture, gardening or construction.

Immersion SAE Ideas

Work as a soil sampling technician.

Research the effects of organic versus synthetic fertilizers on soil health and crop yield.


FFA


Sustainability Manager

Skills Needed

- Report Writing
- Environmental Stewardship
- Passion for Sustainability

Foundational SAE Ideas

Study sustainable agricultural practices and how they contribute to environmental conservation and efficiency.

Shadow a sustainability manager or professional.

Immersion SAE Ideas

Develop a line of products made from sustainable materials or using eco-friendly processes, such as reusable bags or biodegradable containers.

Start a landscaping business that uses sustainable practices.


FFA


Sustainability Specialist

Skills Needed

- Knowledge of Sustainable Agriculture Practices
- Analytical Thinking
- Collaboration

Foundational SAE Ideas

Visit farms that implement sustainable practices.

Research various roles within sustainability, and create a project or presentation about different career paths and required qualifications.

Immersion SAE Ideas

Start a community recycling program.

Host workshops for community members about sustainable practices.


FFA


Systems Administrator

Skills Needed

- Operating Systems
- Server Administration
- Troubleshooting

Foundational SAE Ideas

Prepare a professional resume and practice interview techniques.

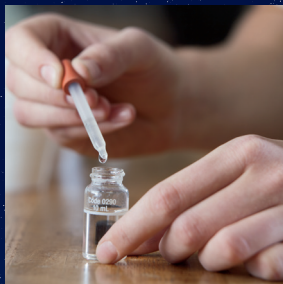
Research emerging technology trends in agriculture.

Immersion SAE Ideas

Intern at an IT services company specializing in agriculture.

Utilize and manage software for monitoring plans in your agriculture department greenhouse or garden.


FFA



Toxicologist

Skills Needed

- Risk Assessment
- Attention to Detail
- Problem-Solving

Foundational SAE Ideas

Study laboratory safety protocols, chemical handling procedures and toxic substance regulations.

Learn about the effects of chemicals on human health and the environment.

Immersion SAE Ideas

Conduct a research project on toxicological effects of environmental contaminants.

Intern at a toxicology laboratory or environmental consulting firm.


FFA


Water Resource Engineer

Skills Needed

- Water Quality Analysis
- Analytical Thinking
- Teamwork

Foundational SAE Ideas

Study safety regulations related to water resource projects.

Learn about water conservation strategies, water rights, water policy and the role of water resource engineers in ensuring sustainable water supply and management.

Immersion SAE Ideas

Conduct a research project on water resource management techniques (e.g., rainwater harvesting, groundwater recharge).

Collaborate with environmental science teachers to establish a school water resource management project.


FFA


Water Treatment Technician

Skills Needed

- Equipment Operation
- Safety Awareness
- Troubleshooting

Foundational SAE Ideas

Create a budget for pursuing certification as a water treatment technician.

Determine what PPE is required for a career as a water treatment technician.

Immersion SAE Ideas

Work at a water treatment plant or utility company.
Conduct a research project on water purification methods.


FFA


Wildland Firefighter/Fire Tower Watchman

Skills Needed

- Firefighting Techniques
- Safety Awareness
- Physical Fitness

Foundational SAE Ideas

Interview a wildland firefighter to learn about the duties, training requirements and career pathways in wildland fire management.

Complete certifications in first aid and CPR.

Immersion SAE Ideas

Volunteer with a local fire department or conservation organization.

Develop a wildfire prevention education program at school, organizing workshops, creating educational materials and conducting fire drills to promote fire safety awareness.


FFA



Wildlife Biologist

Skills Needed

- Field Research Techniques
- Conservation
- Data Analysis

Foundational SAE Ideas

Job shadow a wildlife biologist at a nature reserve, zoo or research facility.

Identify what skills are needed for a future career as a wildlife biologist.

Immersion SAE Ideas

intern at a wildlife rehabilitation center.

Establish a wildlife monitoring program at school, using trail cameras or bird feeders to observe and document wildlife activity.

FFA


Wind Substation Technician

Skills Needed

- Troubleshooting and Repair
- Safety Awareness
- Equipment Operation and Maintenance

Foundational SAE Ideas

Research renewable energy sources, grid integration and environmental impacts of wind energy.

Analyze labor demand for wind substation technicians.

Immersion SAE Ideas

Work for a wind energy company or utility provider.

Research the efficiency of wind energy compared to other energy sources.

FFA


Wind Turbine Technician

Skills Needed

- Equipment Maintenance and Repair
- Troubleshooting
- Documentation

Foundational SAE Ideas

Determine what safety certifications are required for a wind turbine technician.

Study the role of wind turbines in sustainable energy production and conservation.

Immersion SAE Ideas

Conduct a research project about turbine blade design.

Collaborate with science teachers to build a model wind turbine prototype, testing different blade designs and measuring energy output.

FFA


Zoologist

Skills Needed

- Taxonomy and Animal Classification
- Field Research
- Problem-Solving

Foundational SAE Ideas

Study wildlife conservation principles, endangered species management and ethical considerations in zoology.

Identify what safety considerations are needed for a zoologist.

Immersion SAE Ideas

Conduct a research study on local wildlife species, monitoring behavior, tracking movements and assessing habitat suitability.

Develop educational materials about local wildlife species and conservation issues for school groups, community organizations or visitors at nature centers.

FFA