

FIELD ATLAS - CAREERS THAT IMPACT THE WORLD

PREFACE

Field Atlas is a career exploration platform that informs high school and college students about the diverse professions in the growing agbioscience industry. The site is also available for universities to see what types of jobs are available and for employers to share more information about their company.

The accompanying lesson plan allows students to take a short quiz, enabling them to start their path to a career that combines agriculture, technology, and science. Along the way, they learn more about other agbioscience careers, degree pathways, and employers.

These lesson ideas can be used together as presented below, or the instructor can pick and choose which activities they would like to use based on their time frame.

EDUCATIONAL STANDARDS ADDRESSED

Advanced Life Science-Animals

- ✕ ALSA-15.1 Evaluate the nature and scope of animal sciences in agriculture, society, and the economy
- ✕ ALSA-15.2 Describe career opportunities and means to achieve those opportunities in animal science
- ✕ ALSA-15.3 Identify how key organizational structures and processes affect organizational performance and the quality of products and services
- ✕ ALSA-15.4 Demonstrate those qualities, attributes and skills necessary to succeed in, or further prepare for, a chosen career while effectively contributing to society

Advanced Life Science- Foods

- ✖ ALSF-11.1 Evaluate the nature and scope of animal sciences in agriculture, society, and the economy
- ✖ ALSF-11.2 Describe career opportunities and means to achieve those opportunities in food science
- ✖ ALSF-11.3 Identify how key organizational structures and processes affect organizational performance and the quality of products and services
- ✖ ALSF-11.4 Demonstrate those qualities, attributes and skills necessary to succeed in, or further prepare for, a chosen career while effectively contributing to society

Advanced Life Science- Plant and Soil

- ✖ ALSPS-7.1 Evaluate the nature and scope of animal sciences in agriculture, society, and the economy
- ✖ ALSPS-7.2 Describe career opportunities and means to achieve those opportunities in plant and soil sciences
- ✖ ALSPS-7.3 Identify how key organizational structures and processes affect organizational performance and the quality of products and services
- ✖ ALSPS-7.4 Demonstrate those qualities, attributes and skills necessary to succeed in, or further prepare for a chosen career while effectively contributing to society

Animal Science

- ✖ AS-12.1 Evaluate the nature and scope of animal sciences in agriculture, society, and the economy
- ✖ AS-12.2 Describe career opportunities and means to achieve those opportunities in animal sciences
- ✖ AS-12.3 Identify how key organizational structures and processes affect organizational performance and the quality of products and services
- ✖ AS-12.4 Demonstrate those qualities, attributes and skills necessary to succeed in, or further prepare for, a chosen career while effectively contributing to society

Ag Business

- ✖ AM-15.1 Evaluate the nature and scope of animal sciences in agriculture, society, and the economy
- ✖ AM-15.2 Evaluate and explore the agribusiness career opportunities in agriculture.
- ✖ AM-15.3 Identify how key organizational structures and processes affect organizational performance and the quality of products and services.
- ✖ AM-15.4 Demonstrate those qualities, attributes and skills necessary to succeed in, or further prepare for, a chosen career while effectively contributing to society.

Agriculture Power, Structure and Technology

- ✖ APST-11.1 Evaluate the nature and scope of animal sciences in agriculture, society, and the economy
- ✖ APST-11.2 Describe career opportunities and means to achieve those opportunities in ag power, structure, and technology
- ✖ APST-11.3 Identify how key organizational structures and processes affect organizational performance and the quality of products and services

- ✖ APST-11.4 Demonstrate those qualities, attributes and skills necessary to succeed in, or further prepare for, a chosen career while effectively contributing to society

Food Science

- ✖ FS-8.1 Evaluate the nature and scope of natural resources in agriculture, society, and the economy
- ✖ FS-8.2 Describe career opportunities and means to achieve those opportunities in food science
- ✖ FS-8.3 Identify how key organizational structures and processes affect organizational performance and the quality of products and services.
- ✖ FS-8.4 Demonstrate those qualities, attributes and skills necessary to succeed in, or further prepare for, a chosen career while effectively contributing to society.

Horticulture

- ✖ HS-8.1 Evaluate the nature and scope of natural resources in agriculture, society, and the economy
- ✖ HS-8.2 Describe career opportunities and means to achieve those opportunities in natural resources
- ✖ HS-8.3 Identify how key organizational structures and processes affect organizational performance and the quality of products and services
- ✖ HS-8.4 Demonstrate those qualities, attributes and skills necessary to succeed in, or further prepare for, a chosen career while effectively contributing to society

Plant and Soil Science

- ✖ PSS-15.1 Evaluate the nature and scope of plant and soil sciences in agriculture, society, and the economy
- ✖ PSS-15.2 Describe career opportunities and means to achieve those opportunities in plant and soil sciences
- ✖ PSS-15.3 Identify how key organizational structures and processes affect organizational performance and the quality of products and services
- ✖ PSS-15.4 Demonstrate those qualities, attributes and skills necessary to succeed in, or further prepare for, a chosen career while effectively contributing to society

Sustainable Energy Alternatives

- ✖ SEA-7.1 Define and explore environmental and natural resource agriculture and environmental and natural resource agribusiness and their role in the economy
- ✖ SEA-7.2 Evaluate and explore the environmental and natural resource career opportunities in agriculture
- ✖ SEA-7.3 Identify how key organizational structures and processes affect organizational performance and the quality of products and services
- ✖ SEA-7.4 Demonstrate those qualities, attributes and skills necessary to succeed in, or further prepare for, a chosen career while effectively contributing to society

Computer Science

- ✖ CSI-2.2 Explore technologies that can be used to collaborate with others of various cultures and career fields.

- ✖ CSI-8.1 Identify computer science occupations and the roles and responsibilities of each.
- ✖ CSI-8.2 Report job outlook, demand, and projected wages for computer science careers.
- ✖ CSI-8.3 Explore the job opportunities that are available in computer science.
- ✖ CSI-8.4 Investigate post-secondary training opportunities and industry certifications that are available.

Principles of Business Management

- ✖ PBM-2.5 Explore career opportunities in business

Advanced Manufacturing

- ✖ AMI-10.1 Investigate careers relating to the advanced manufacturing pathway
- ✖ AMI-10.2 Analyze education and skill requirements for careers relating to advanced manufacturing
- ✖ AMI-10.3 Report the outlook, demand, and projected wages for careers related to advanced manufacturing

Computer Integrated Manufacturing

- ✖ ETE - 0.2.1 Identify engineering and technology occupations and the roles and responsibilities of each.
- ✖ ETE - 0.2.2 Report job outlook, demand, and projected wages for engineering and technology careers.
- ✖ ETE - 0.2.3 Explore job opportunities that are available in engineering and technology.
- ✖ ETE - 0.2.4 Investigate post-secondary training opportunities and industry certifications that are available.
- ✖ ETE - 0.2.5 Explore student professional organizations related to engineering and technology.

Computers in Design and Production

- ✖ CPD-7.1 Research electronics, advanced manufacturing, precision machining, welding, and architecture careers.
- ✖ CPD-7.2 Find electronics, advanced manufacturing, precision machining, welding, and architecture opportunities offered by a technical school or college.
- ✖ CPD-7.3 Determine electronics, advanced manufacturing, precision machining, welding, and architecture occupation wages/salaries.
- ✖ CPD-7.4 Research electronics, advanced manufacturing, precision machining, welding, and architecture job outlook information.

Principles of Engineering

- ✖ POE - 0.2.1 Identify engineering and technology occupations and the roles and responsibilities of each.
- ✖ POE - 0.2.2 Report job outlook, demand, and projected wages for engineering and technology careers.

- ✕ POE - 0.2.3 Explore job opportunities that are available in engineering and technology.
- ✕ POE - 0.2.4 Investigate post-secondary training opportunities and industry certifications that are available.
- ✕ POE - 0.2.5 Explore professional organizations related to engineering and technology.

Robotics Design and Innovation

- ✕ RDI-10.1 Analyze educational and skill requirements for positions related to automation and robotics.
- ✕ RDI-10.2 Investigate careers related to automation and robotics including career ready jobs and those positions requiring post-secondary education.
- ✕ RDI-10.3 Identify jobs that align with pathways linked to production, engineering, technology, and business.
- ✕ RDI-10.4 Identify course requirements, certifications, and career prospects for collegiate programs related to robotics.
- ✕ RDI-10.5 Analyze employment trends and projected wages for careers in all aspects of the industries related to automation and robotics.

LEARNING OBJECTIVES

- ✕ Students will evaluate agbioscience careers based on interest, skills, and abilities.
- ✕ Students will research various careers and explore various requirements for each.
- ✕ Students will explore the major Indiana agbioscience employers.
- ✕ Students will exhibit the necessary level of professionalism while interviewing a professional in a potential career field.

LESSON PLAN

Interest Approach: Attached below are domino cards.

There are three different versions. Determine the number of sets you will need to print and cut out. Groups of 2-3 are ideal. Groups of three may help reduce the allotted time for this activity. Consider using different colored card stock to differentiate the sets and storing them in their own Ziplock bag. Each set also has a set number to help eliminate mix up between the sets.

Estimated Activity Time:

45 Minutes

Pass each group a set of dominos. Instruct them to go to <https://www.myfieldatlas.com/>. They will click on the Career Profiles link at the top of the web page under the Career Options header.

By clicking on the various careers, students will find out more information about each career. They can use this to help them build their dominos. They will match the description with a career title. As students work, it will be helpful to check each group's

work, letting them know if they are correct or not periodically. When they are finished, they will raise their hand for you to check their work. The attached sheets of dominos can serve as the answer key as they are in order. If a group gets done early, you can give them another set while others are still constructing their dominos. This could also be used as a friendly competition awarding the winner with a prize such as candy, bonus points, etc.

Suggested Modification for Virtual Classrooms



Students can complete the [Field Atlas Ag+Bio+Science Careers Webquest](#) created on a Google Form. When you click on the hyperlink, it will prompt you to make a copy. This will allow you to create a link that is specific for you and your class. You will also be able to see your student's grade under the response tab, as it will self-grade the student's work.

Exploring Ag+Bio+Science: After each group completes at least one set of dominos, show the [Why Ag+Bio+Science? Field Atlas Video](#). Lead into a discussion about the Field Atlas Platform and how it can help them find a meaningful career. Even though many people typically think of farmers when they hear the word agriculture, there are over 300 careers in the agriculture sector. Chances are many students will find a career involving agriculture, technology and science, and Indiana is leading the way in these agbioscience careers.

Estimated Activity Time:

10 Minutes

Students have the option to create an account on Field Atlas. Instruct students to do this if you prefer. The benefit of logging in is to save careers, companies and degree pathways to your profile for quick reference and easy access. It also saves your quiz results for future reference.

Charting Your Course Online: Pass out the attached worksheet titled **Charting Your Course**. Instruct the students to take the [quiz](#) located on the home page.

Estimated Activity Time:

5 Minutes

Charting Your Course In-Person: Students will answer the **Charting Your Course** worksheet questions by picking the top three career quiz results that they are interested in learning more about. When they are finished, they will compare the degree pathways required for each career to determine which one they might be most interested in. They will answer additional questions at the end of the worksheet. When students have completed the **Charting Your Course** worksheet. Instruct them to choose the agbioscience career they are most interested in to complete a presentation.

Estimated Activity Time:
30 Minutes

Career Presentations: Pass out the **Career Presentation Rubric** attached below, so students know what needs to be included in their presentation. Allow students time to create a presentation. Most of the project requirements needed, have already been answered by students on the *Charting Your Course worksheet*.

Estimated Activity Time:
40 Minutes

Estimated Activity Time:

60 Minutes*

*Time will depend on the size of the class. Average time is 4 minutes per presentation.

Have students present their careers to the class. While the other students are watching the presentations, have them fill out the worksheet titled **Career Presentation Reflection**. There are 11 spots for students to fill out careers. If you have a larger class, make additional copies of the last page, or you can copy and paste this to an electronic platform.

Suggested Modification for Virtual Classrooms



Students can just turn in the multimedia presentation and omit the time management and presentation delivery portion of the rubric.

Teachers could also require students to use Screencastify (or a similar program) or video themselves completing the presentation.

Employer Bingo: To allow students to learn about some of the Indiana companies that are leaders in agbioscience, pass out the worksheet titled **Employer Bingo**. Choose which type of bingo the students are playing, for example, traditional, four corners, cover all, etc. You can play more than one round, ending in a coverall if time allows.

Estimated Activity Time:

10-30 Minutes*

*Traditional Bingo- 10 minutes
*Four Corners- 12 minutes
*Cover All- 30 minutes

Instruct students to the [Employers Pages](#) link on Field Atlas. They will look through the employer's information and determine which employer each bingo box is describing. They may use a company more than once. Some of these clues are given as the student watches the attached YouTube videos under the employer's bios, so it may help to make sure your school's filter does not block these. An answer key is also included.

Catch a Career: Play "Catch a Career." The cards are attached below. Divide students up into two groups. An even number of players sit alternating around in a circle. Give each student 2-3 career cards. Instruct them not to show anyone their cards at this time. They can choose what order they want to use the cards. They will be only using one per round.

Estimated Activity Time:

40 Minutes

Players take turns as the "giver," who attempts to prompt their teammates to guess the career listed on the top of the card by reading the description. If classmates cannot guess the career, the "giver" can give other hints not related to the description as long as they do not say any part of the career title. Players sitting next to the "giver" can make sure that the player does not say the career title. Students are not allowed to tell students what it starts with or rhymes with. Students have 45 seconds to guess. Then the player to the left of them will go next. The teacher can be the timer and keep the score. Play as long as you want or until all careers are used up.

Suggested Modification for Virtual Classrooms



A [Field Atlas AgBioScience Careers Quizlet](#) has been created with all of the careers listed on the website.

The teacher could play Quizlet live with their students remotely. Quizlet Live in team mode is an engaging game you can use to study or to help students learn. Players work in teams to correctly match the terms and definitions from study sets. You can also play Quizlet Live in individual mode, where each individual plays against others. If you identified yourself as a teacher when you signed up, you can start a game of Quizlet Live in team mode.

The Learn mode could also be used if you do not meet with your students at a set time. Learn will vary the question type (e.g. Flashcard, True/False, Multiple Choice, Written, etc.). It might be helpful to have the students go to the options button on the bottom left and unclick written. This will allow students choices for answers.

EXTENSION ACTIVITIES

Interviews in the Field:

- ✂ Interviewing someone in the career field the students are interested in will give them more insight into the opportunities and challenges in that particular field. Students can come up with a list of 10 questions they would like to know more about related to their career. The teacher should preview this list and give the final approval to all of the questions.
- ✂ They will then find someone in the career field. This could be done locally, or you can reach out to AgriNovus at fieldatlas@agrinovusindiana.com to try a set up an interview with one of the agbioscience employers listed on the website. Remind students to thank the person for their time. These interviews can be shared with the class.

Connect with a Field Atlas Ambassador:

- ✂ AgriNovus also has a [Field Atlas Ambassadors program](#), a peer-to-peer program that enables students to explore a variety of agbioscience careers. This program is a function of Field Atlas that informs high school and college students about the kinds of diverse professions in the growing agbiosciences industry.
- ✂ Field Atlas Ambassadors will connect the dots between courses of study and opportunities in the agbiosciences. The ambassadors will talk with students, professors and academic advisors about career paths in the agbioscience industry. Depending on their location, an ambassador may represent more than one college campus.
- ✂ For the Fall 2021 semester, Field Atlas has selected these students to represent the program:
 - Gracie Whitacre - Purdue University-Fort Wayne, Sophomore
 - Kailyn Cooksey - Indiana State University, Sophomore
 - Maranda Elswick - Purdue University, Junior
 - Erin Straka - Butler University, Senior
 - Noah Berning - Purdue University, Sophomore
 - Sylvia Harris - Huntington University, Senior
 - Carly Morris - Franklin College, Senior
- ✂ These students are available to come to your classroom either through a Zoom Chat or in person. The ambassador's contact information is on the website.

Career Dominos

Set 1

START

Also known as:

Agricultural Safety and Health Program Director, Agricultural Systems Specialist, Conservation Engineer, Project Engineer, Research Agricultural Engineer

AGRICULTURAL ENGINEER

These professionals study the characteristics and behavior of animals – gaining a better understanding of how they interact with each other and their environments. Through breeding programs, informational presentations, and collecting and analyzing biological specimens, these people work on the front lines of the effort to preserve our planet's biodiversity.

ZOOLOGISTS and WILDLIFE BIOLOGIST

These career professionals curate and program large data sets that ultimately function as the “brain” of artificial intelligence devices, allowing them to operate independently.

AI/MACHINE LEARNING ENGINEER

These people use a keen attention to detail to provide animals with the best possible care. From private clinics to animal hospitals to research facilities, these professionals are crucial in both emergency and day-to-day care of animals.

VETERINARY TECHNICIAN

Also known as:

Analytical Research Chemist, Chief Scientific Officer, Director of the Biophysics Facility, Professor of Physics/Researcher in Biophysics, Research Scientist

BIOCHEMIST and BIOPHYSICIST

It's the role of these specialists to help businesses implement green and sustainable practices that reduce a company's environmental footprint, ensure compliance with regulations and meet organizational goals and objectives.

SUSTAINABILITY SPECIALIST

They are the glue that holds the lab together. Acting as assistants to scientist and biologists, they carry out a variety of tasks – preparing specimens, assisting with experiments and compiling data.

BIOLOGICAL TECHNICIAN

These professionals study soil's dynamic composition to understand how it can be managed to protect and improve agricultural practices, environmental quality and human health.

SOIL SCIENTIST

They design chemical plant equipment and create processes for chemicals and products that are essential to everyday manufacturing - gasoline, rubber, plastics, detergents, cement, paper and more. And they do it all by applying principles and technology of chemistry, physics and engineering.

CHEMICAL ENGINEER

They are the creative minds behind the apps we use every day, and not just the ones on our smartphones. They analyze the needs of businesses and consumers, then use their skills in computer science and software engineering to design, test and develop applications that meet those needs.

SOFTWARE DEVELOPER, APPLICATIONS

These professionals focus on an organization's specific needs - whether that be network analysis, system administration, security or web administration. They are problem solvers who handle issues and complications as they arise and work diligently to prevent them.

INFORMATION TECHNOLOGY SPECIALIST

They are the tech-savvy individuals that build, install, test and maintain robotic equipment. Their work positively transforms lives and work practices, raises efficiency and safety levels and provides enhanced levels of service.

ROBOTICS TECHNICIAN

They conduct research and experiments virtually, using computer simulations to build and study chemicals and their behavior. This allows scientists to perform experiments that would otherwise be too dangerous, impractical or expensive to conduct - making research more efficient.

COMPUTATIONAL CHEMIST

These people are the soil doctors that study the relationship between soil and plant life, they work to improve soil quality and productivity, plant health, seed quality and the nutritional value of crops.

AGRONOMIST

As detectives of the chemistry field, these professionals identify substances and how they behave. Their work is used in many industries both in and outside the laboratory - you can find them working in forensic labs, environmental labs, or in the animal pharmaceutical field.

ANALYTICAL CHEMIST

They are experts in growing of grapes - working to ensure vineyards deliver the quality and quantity of grapes required to meet demand for beverage and food production. Often the head of operations, they are responsible for all portions of the grape growing process.

VITICULTURIST

They are often referred to as the "Science of Safety" - using the power of science to test and predict how various chemicals may cause harm. These professionals play a key role in protecting public health, the environment and animal welfare.

TOXICOLOGIST

Also known as:

Agricultural Research Technologist, Laboratory Technician (Lab Tech), Research Assistant, Research Associate, Research Specialist, Research Technician, Seed Analyst, Senior Agricultural Assistant

AGRICULTURAL TECHNICIAN

As animals' lives improve, so does human quality of life, and the availability of nutritious food on our tables. These professionals work to determine which traits are most desirable – such as greater resistance to disease, or higher milk output – then help to promote those traits through breeding programs.

ANIMAL GENETICIST

From plane engines to big data precision agriculture, every large operating system needs an expert “mechanic.” These people work to understand an organization's goals, identify “gaps” in current software functionality and then implement solutions by configuring and optimizing software programs.

INFORMATION TECHNOLOGY CONFIGURATOR

It's the job of these professionals to understand user or functionality issues and resolve them by researching, designing and managing the implementation of solutions. Their work ensures that organizations are able to maximize efficiency and achieve their goals.

SOLUTIONS ARCHITECT

How can we grow crops that resist disease, withstand drought or yield larger produce? These people solve issues like these by enhancing or augmenting biological processes. In this way, they help improve the productivity of crops used for food, fiber and fuel.

BIOENGINEER

They transform large amounts of unruly data so that useful information can be extracted. They're responsible for cleaning data to remove inaccuracies and transforming it so that patterns and valuable insights can be obtained. The resulting information can be used to detect consumers or market trends.

DATA SCIENTIST

They work with landowners, governments and farmers to protect and preserve natural environments while finding new ways to improve them.

CONSERVATION SCIENTIST

They are the animal experts – from pets to livestock. And their deep knowledge stems from research and development; they understand the whole animal. They use this, expertise to diagnose, treat and research disease and sustain animal life for years to come.

VETERINARIAN

The leaders in the lab, with the ability to think both qualitatively and quantitatively. Known for their high-quality standards, they produce chemical analyses that allow us to continually discover and deepen our knowledge about the world we live in.

ENTOMOLOGIST

Cloud computing is a necessity in today's business landscape, and these are the experts in all things cloud-based. "Should I take storage from my computer to the cloud?" "Is my data information secure?" These are problems and questions that they solve through managing, planning, building and monitoring cloud systems.

CHEMIST

They study everything about insects from their classification to their behavior, life cycle, distribution and so on. A boundless and versatile career, they work as researchers, teachers and consultants - for universities, private companies or government agencies.

FOOD SCIENTIST and TECHNOLOGIST

They are always thinking ahead and collaborating with developers and other IT staff to mitigate system downtimes and promote automation. Focused on system reliability, these people work behind the scenes - laying the groundwork that allow programs to run smoothly.

DevOps ENGINEER

STOP

Career Dominos Set 2

START

They design computer tools and database for processing and analyzing the resulting data to ensure that the information obtained is able to be interpreted and shared, paving the way for new discoveries across the globe.

BIOINFORMATICS SCIENTIST

They investigate potential environmental threats and create plans to prevent an fix them. As experts in natural science, they have the responsibility to act both as environmental advisors and advocates to companies and governments.

ENVIRONMENTAL SCIENTIST

Currently, we rely on these professionals to help us to better understand the world around us, viewing data as a puzzle that can be applied to various situations - from science, to public health, agriculture and marketing. They analyze and interpret data in order to draw conclusions, make predictions, tracks, trends and provide information.

STATISTICIAN

These scientists develop innovative ways to improve the efficiency and functionality of complex computing systems, enabling us to access information more quickly, store data more securely and automate tasks and process.

COMPUTER and INFORMATION RESEARCH SCIENTIST

They study Earth's life in all its forms, from bacteria to horses and everything in between. They seek to understand how living things came to exist, how they function, what they do and how they're impacted by external factors. Because of these people, we have a better understanding of the planet we call home.

BIOLOGIST

They are the driving force behind cohesive lab operations - ensuring every aspect of a project is carried through with consistency, safety, and accuracy. These professionals serve as the right-hand person to their scientific colleagues - assisting them with a variety of tasks within collection, sampling and experimentation.

LABORATORY TECHNICIAN

They are involved in all aspects of the process - planning, developing and assessing progress. They closely monitor the development phase, conducting multiple testing phases to ensure program performance meets quality specifications and functions as expected.

SOFTWARE QUALITY ASSURANCE ENGINEER and TESTER

They use their deep understanding of data applications to help businesses, organizations and IT professionals establish common goals and utilize this data to accomplish them. With more sophisticated ways to leverage the huge amounts of information we create, they help us become more efficient, informed and productive.

DATA CURATOR

Their passion for protecting this limited resource, combined with their deep understanding of how water circulates above- and underground, paves the way more innovative solutions to the evolving environmental, agricultural and societal needs.

HYDROLOGIST

They look at a variety of photos - like aerial photography, light and radio wave direction systems, digital satellites and thermal energy systems - to record information that helps us understand how to use Earth's land.

REMOTE SENSING TECHNICIAN

Someone who uses mathematics and statistics to explore and solve problems in biology. They design experiments in the fields of agriculture, environment and human healthcare to solve problems that will make life better for us all.

BIOSTATISTICIAN

They're responsible for formulating the flavorings that go into food, drinks, and even pet products. Combining scientific and analytical tools with creativity, these professionals blend flavor chemicals and extracts to create flavorings and flavor profiles.

FLAVOR TECHNOLOGIST

Asked with preventing security breaches, these professionals are gatekeepers of computer systems. They develop security plans that fit the needs of a business or organization, and then monitor and respond to potential threats.

INFORMATION SECURITY ANALYST

These people study and conduct experiments on to develop ways to maximize their growth and health. They may determine optimal soil composition, research chemical-free pest management solutions or oversee nurseries and greenhouses.

HORTICULTURIST

They ensure that the daily projects related to software development are completed efficiently and effectively. They work with all areas of a company to create a seamless collaboration with the software development team and remove obstacles that might delay the team's goals and help the team align their work to company objectives.

SCRUM MASTER

The backbone of chem-related fields. Their technical prowess in the lab contributes to research and development of new products and processes, quality control, environmental standards and more. They're right in the center of experimentation - hands-on in discovery process.

CHEMICAL TECHNICIAN

They formulate fungicides that prevent and kill harmful fungal parasites and diseases that pose a threat to crops and plants. They study chemical compounds to identify toxins that manage fungi and won't harm plants, while adhering to environmental regulations.

FUNGICIDE CHEMIST

Using data from the research they gather; they can make or break the case for any cause – such as food security and public health. With their ability to create compelling arguments and presentations, they strategize for a more sustainable, efficient future, every day.

MARKET RESEARCH ANALYST and MARKETING SPECIALIST

Computers, phones, tablets, routers and more – to work; basically anything that has a chip in it requires one of these professionals to make it operate. They research, design, develop and test operating system components, drivers and debuggers to ensure that the daily technology show always go on.

SOFTWARE DEVELOPER, SYSTEMS SOFTWARE

They use data and experimentation to construct models of complex biological systems and processes – all with the intent to make new discoveries about how living things function. These scientists identify and challenge assumptions, innovate and test solutions, changing the way we understand the world around us.

COMPUTATIONAL BIOLOGIST

They know plants and their cycle better than they know themselves. They use that knowledge to maximize, protect and manage crops and agricultural plants and trees. Starting from the root – literally, with expertise in soil and pests – these professionals research the perfect conditions for plants to thrive in.

PLANT BIOLOGIST

With an understanding of goals and functional needs, they research and design customized software solutions, oversee development and implementation and ensure on-going functionality. With an eye to future, they ensure that software systems are able to evolve with changing trends and emerging technologies.

SOFTWARE ARCHITECT

Also known as: Analyst Programmer, Application Programmer Analyst, Computer Programmer, Computer Programmer Analyst, Internet Programmer, Java Developer, Programmer Analyst, Web Applications Programmer, Web Programmer.

COMPUTER PROGRAMMER

They rely on an understanding of circuitry and electronic systems to build and maintain the electronic equipment that powers everything from laboratories to transportation. These professionals roll up their sleeves to convert engineers' plans to working prototypes.

ELECTRONICS ENGINEERING TECHNICIAN

Extreme weather conditions can negatively affect crop yield, increase the threat of pests and disease and livestock production. By studying the earth's atmosphere and predicting weather patterns, these people help farmers and ranchers to understand, plan and predict impactful conditions.

METEOROLOGIST

They can be found working across every industry, from biology and chemistry to environmental science, pharmacology, physics, computer science and even history/ They plan and conduct research by formulating hypothesis, conducting experiments and analyzing the results in order to expand knowledge.

RESEARCH SCIENTIST

Working in agbioscience sector, they may evaluate the nutritional value of feed, observe animals to better understand eating habits, or adjust nutrients in feed to support increased production or disease resistance.

NUTRITIONIST

Using design methods, problem-solving and logic skills, these professionals build computer systems and their related components. From processors to memory devices, 3-D printers to self-driving combines, computer hardware engineers shape the future of computer technology.

COMPUTER HARDWARE ENGINEER

It's up to these people to source, certify and formulate this data - enabling companies and organizations to harness its power and move innovation forward. With a high attention to detail and focus on communication - these processors are an integral part of any team.

DATA PROCESSOR

STOP

Career Dominos

Set 3

START

Tech gurus - understanding all the ins and outs of computer systems of all sizes; they focus on their connectivity and security to proactively prevent and fix issues with speed. These specialists are problem solvers - using analytical thinking and customer service skills to overcome any type of technical issue.

COMPUTER NETWORK SUPPORT SPECIALIST

They use their prowess for efficiency to improve agricultural processes and systems. From manufacturing and industrial machines to entire greenhouse systems, they're everyone's go-to on making things work.

MANUFACTURING ENGINEER

Also known as:
Plant breeder,
Clinical
Cytogenetics
Director, Research
Scientist, Biologist.

PLANT GENETICIST

Responsible for ensuring that the products and food that we buy meet established quality standards, these professionals' tests, interpret results, and conduct visual inspections. They may identify products that don't meet established standards and advise on solutions.

QUALITY CONTROL ANALYST

They use this technology daily to develop advanced methods and products that interpret environmental data like moisture, terrain features and climate conditions to automate farming processes. This emerging technological approach is the future of modern farming.

GEOSPATIAL ANALYTICS SCIENTIST

They are visionary leaders and tech gurus, shaping information systems around the unique needs and challenges of organizations, testing and modifying their plans as needed. These professionals are leaders and communicators, providing oversight and guidance to achieve system goals.

INFORMATION TECHNOLOGY ARCHITECT

These people diagnose disease by going straight to the source - they examine animal tissues and body fluids. They conduct examination of organs, tissues and bodies or examinations of urine and blood. This isn't for the faint of heart - these professionals are the crux of sustaining animal health.

VETERINARY PATHOLOGIST

These experts are highly skilled in both front-end and back-end web development - designing the visible parts of websites while simultaneously constructing the behind-the-scenes infrastructure.

FULL STACK DEVELOPER

When an organization is ready to improve productivity and efficiency, they often look to these people. They use knowledge of both business and technology to recommend and implement computing solutions that may improve automation, address risk areas and faster processing.

COMPUTER SYSTEMS ANALYST

They are responsible for creating new food strategies and products that will appeal to consumers. They oversee the entire product development process, from conducting market research and trends, to product testing, packaging and marketing.

PRODUCTION DEVELOPMENT FOOD SPECIALIST

They use technology to be more precise and controlled when it comes to agriculture. From GPS to satellite, their perspective is key to creating better food – and more of it. Thanks to their tech-savviness, crop and livestock production becomes a more sustainable practice.

PRECISION AGRICULTURE TECHNICIAN

They are multi-taskers who oversee technology projects from start to finish. They ensure that large-scale projects run smoothly, working cross-functionally to ensure that technologies and supporting tasks are implemented on time, budget and meet goals.

INFORMATION TECHNOLOGY PROJECT MANAGER

They combine their knowledge of engineering, physics and math to create functional and efficient mechanical systems. From design to installation, maintenance and repair – these engineers keep the systems that operate our world running smoothly.

MECHANICAL ENGINEER

Think about your favorite flavor of ice cream. This person was likely tasked with overseeing important research into its development – the cost of the ingredients, analyzing consumer trends on nutrition and flavors, and finding efficient and cost-effective methods to produce it.

RESEARCH DEVELOPMENT MANAGER

Computers and devices use network systems to communicate and share information – much like how we do via social media platforms. These professionals are critical thinkers who understand business needs then plan and design computer systems to best meet these requirements.

COMPUTER NETWORK ARCHITECT

Working to keep sensitive and classified information safe from threats by designing, developing and implementing advanced network solutions. As these IT professionals outsmart would-be hackers, they protect the privacy of consumers and the reputations of business organizations.

CYBERSECURITY ENGINEER

They are the boots on the ground in the fight against pollution – working front lines to save our planet. These professionals collect and test water and soil samples, inspect worksites and assist in the development of new devices and practices that protect out natural resources and public health.

ENVIRONMENTAL ENGINEERING TECHNICIAN

They combine creativity with engineering principles; they research and develop ideas for new, more efficient products and seek ways to expand functionality in existing products - such as transferring a Fitbit to animals to help track health and productivity.

DESIGN ENGINEER

They study substances that do not react with each other - but have advantageous effects as a mixture; examples include pesticides, fertilizers, paints, cosmetics, etc. These scientists are curious about not only how a formula can be improved chemically, but how it can better serve both farmers' and consumers' evolving needs.

FORMULATION CHEMIST

They apply scientific principles and mathematics to improve processes that develop the products we enjoy everyday/ These professionals specialize in maximizing the efficiency of transforming raw materials into final products. These innovations keep overhead as low as possible for production companies and prices down for consumers.

PROCESS ENGINEER

They guide businesses on how to create sites that capitalize on that snap decision. Armed with a combination of graphic design and technical skills, these people create relevant, functional and engaging online experiences that represent an organization's brand image and engage its target audience.

INFORMATION TECHNOLOGY WEB DESIGNER

They're experts on microorganisms like bacteria, fungi, and algae. But they don't stop at the nitty gritty - they take their knowledge of these microscopic creatures to see bigger picture. With this greater understanding, these people can change the world.

MICROBIOLOGIST

They ensure that local, state, federal and global health safety standards are strictly adhered. They may travel to various locations - farms food labs, manufacturing facilities and restaurants - confirming that proper storage, handling, processing and packing is taking place.

FOOD SAFETY SPECIALIST

They specialize in the technology of electricity - designing, developing, testing and producing electrical equipment and systems within a wide range of technologies. Do you like to create, solve and build? This career might be for you.

ELECTRICAL ENGINEER

These scientists study cells' interaction and their diverse functionality to discover what fuels and sustains life. Their research is applied across many areas including genetically engineering new crops, applying DNA-based technology for animal breeding, addressing environmental health and so much more.

MOLECULAR and CELLULAR BIOLOGIST

Always on the look out for new uses for fermentation, they're leaders in helping us connect the microscopic to the big picture.

FERMENTATION SCIENTIST

When these pollutants endanger the quality of our air, soil and water, these professionals strive to solve these pressing issues and improve conditions. They work to advance issues like waste disposal, unsafe drinking water, recycling and sustainability.

ENVIRONMENTAL ENGINEER

As the righthand men and women of food scientists, they assist and support in the lab and in the field – collecting and logging samples and data, keeping detailed records and conducting quality control tests of food products.

FOOD SCIENCE TECHNICIAN

They take theory and make it a reality. They take plans, get hands-on with math, science and physics, and bring efficient and safe mechanical systems and equipment to life.

MECHANICAL ENGINEERING TECHNICIAN

Also known as: Design Engineer, Electronics Design Engineer, Engineering Manager, Evaluation Engineer, Integrated Circuit Design Engineer, Product engineer, Radio Frequency Engineer, Research and Development Engineer, Test Engineer, Test Engineering Manager.

ELECTRONICS ENGINEER, EXCEPT COMPUTER

They research and evaluate data to make scientific predictions about our climate system's future. They lead the global movement for protecting Earth's natural resources by using their research to inform world leaders and make actionable recommendations for sustainability.

CLIMATE CHANGE ANALYST

STOP

Charting Your Course

Name: _____

Directions: Go to <https://www.myfieldatlas.com/>. Click on Take the Quiz. Answer the questions to determine careers that might interest you. Pick **three** career choices that interest you the most and answer the questions below. When you finish, explore the degree pathways that will help you get your dream job and answer the questions at the end of the worksheet.

Career Choice #1: _____

1. Give a brief description of the career.
2. What is the career outlook?
3. What is the average salary?
4. Choose and list three skills required for this career field that could be added to your resume.
5. List the top three "Day in the Life" duties that excite you the most.
6. What degree pathways will be helpful and allow you to earn a career in this field?
7. After researching this career, do you think it is a good/bad/unsure fit for you? Why?

Career Choice #2: _____

1. Give a brief description of the career
2. What is the career outlook?
3. What is the average salary?
4. Choose and list three skills required for this career field that could be added to your resume.
5. List the top three "Day in the Life" duties that excite you the most.
6. What degree pathways will be helpful and allow you to earn a career in this field?
7. After researching this career, do you think it is a good/bad/unsure fit for you? Why?

Career Choice #3: _____

1. Give a brief description of the career
2. What is the career outlook?
3. What is the average salary?
4. Choose and list three skills required for this career field that could be added to your resume.
5. List the top three "Day in the Life" duties that excite you the most.
6. What degree pathways will be helpful and allow you to earn a career in this field?
7. After researching this career, do you think it is a good/bad/unsure fit for you? Why?

Degree Pathways

1. Of the three career choices you chose, is there any common degree pathways? List below.
2. Explore the degree pathways. Give a brief description of the pathway.
3. What course work should you expect?
4. List two additional degrees and/or concentrators that interest you?
5. Where can you go to earn this degree or certificate?

Career Presentation Rubric

Directions: Create a visual presentation using the following rubric to guide you. You will grade yourself based on how you feel you did in the student self-assessment column. You will be presenting these to the class.

<u>Career Presentation Rubric</u>	Student Self-Assessment	Teacher Grade
Presentation Requirements: Includes all required information. (3 points each) Part 1: Information about Career Path <ul style="list-style-type: none"> • Give a brief description of the career • Accurately describe why you selected the career with detail and clarity • Note the career outlook • Include average salary • List 4-7 skills required for this career field that could be added to your resume. • List 5-7 "Day in the Life" duties. • What degree pathways will be helpful in earning a degree in this field. Part 2: Personal Career Evaluation <ul style="list-style-type: none"> • Give your opinion on the best parts of the career and why? • Give your opinion on the most challenging part of this career and why? • List out clear steps on how to move forward to obtain a career in this field. • Provides a thoughtful reflection on what you learned about this career and if you plan to pursue a degree in this field. 	____/33	____/33
Visual Representation: Multimedia presentation was put together nicely. Font were not too small. Bullet points were used instead of large paragraphs of information.	____/5	____/5
Pictures: Several pictures were included throughout the presentation. They were relevant to the topic.	____/5	____/5
Time Management: The student was productive with the time provided in class.	____/5	____/5
Presentation Delivery: Presenter maintained good volume, appropriate body language, eye contact, and spoke loud and clear.	____/12	____/12
Comments:	Total Score: ____/60	Total Score: ____/60

Career Presentation Reflection

Directions: As your classmate's present, record the following information for each presentation.

Career: _____

Most interesting part of this career:

Is this career a: (Circle one) good match bad match or need more information

Career: _____

Most interesting part of this career:

Is this career a: (Circle one) good match bad match or need more information

Career: _____

Most interesting part of this career:

Is this career a: (Circle one) good match bad match or need more information

Career: _____

Most interesting part of this career:

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Is this career a: (Circle one) good match bad match or need more information

Career: _____

Most interesting part of this career:

Is this career a: (Circle one) good match bad match or need more information

Career: _____

Most interesting part of this career:

Is this career a: (Circle one) good match bad match or need more information

Employer BINGO - TEACHER KEY

Directions: Go to the [Employer Pages](#) link on Field Atlas. Look through the **employer information and videos** to determine which employer each box is describing. Your goal is to get a bingo. Your teacher will let you know what type of Bingo you are playing, example traditional, four corners, cover all, etc. You may use a company more than once.

<p>A large company with a small company feel located in Greenfield, IN that globally helps with food insecurity & food safety. They make personal growth & development a priority.</p> <p>Employer: Elanco (Video)</p>	<p>Efforts focus on producing high-performance popcorn hybrids. Possible careers with this company include: Biologist, Soil Scientist, Plant Geneticist, Agronomist, Research Scientist, and Plant Biologist</p> <p>Employer: Ag Alumni Seed</p>	<p>A multimillion agbioscience company that helps feed the world. They have an open culture that embraces everyone while creating a fun work environment.</p> <p>Employer: United Animal Health (video)</p>	<p>This company brings a global presence, deep knowledge and diverse resources to explore what's next in digital agriculture, creating higher yields and raising the bar on crop protection.</p> <p>Employer: Corteva</p>	<p>Located in Atlanta IN, this company uses their resources and widely skilled research team to provide best-in-class products and resources to farmers in the field, including the use of drones.</p> <p>Employer: Becks</p>
<p>This company combines their love for soil, agronomy and data to create custom, sustainable solutions that maximize crop efficiency -- saving farmers time, money and hassle.</p> <p>Employer: Advanced Agrilytics</p>	<p>People are what make this company special. This largest U. S. family-owned seed company sponsors trips for employees and has stated a Farm to Institution Program.</p> <p>Employer: Becks (video)</p>	<p>This company believes that the more minds that come together, the better the ideas get. They are building the world's first seed foundry, reintroducing genetic diversity and working to address some of today's major challenges.</p> <p>Employer: Inari</p>	<p>Located in Greenfield IN, this company provides innovative solutions that protect and enhance animal health. Their work empowers veterinarians and food producers to help animals live better lives.</p> <p>Employer: Elanco</p>	<p>Digital agriculture technology company with a long-term commitment to improve across the globe using artificial intelligence.</p> <p>Employer: Solinftec</p>
<p>Operating today in more than 70 countries worldwide, this company offers a wide range of biotechnological and certification solutions for sustainable modern agriculture.</p> <p>Employer: Italpollina</p>	<p>An international leader in animal health and nutrition, providing industry-leading solutions that meet the challenge of providing animal protein to feed the world.</p> <p>Employer: United Animal Health</p>	<p>Free Space</p>	<p>Made up of a diverse team of people who are more than just a job title. This agriculture lending cooperative is owned and controlled by their customers</p> <p>Employer: Farm Credit Services</p>	<p>Founded in 2019, their goal is the feed the growing world while finding the best in class solutions to help the farmer. A collaborative culture that prides itself in volunteering in the community.</p> <p>Employer: Corteva (video)</p>
<p>Located in Evansville, Indiana, this company offers their customers an in-home smart garden, allowing anyone the opportunity to become their own farmer.</p> <p>Employer: GrowPod or Heliponix</p>	<p>This team focuses on helping farmers grow and a dedication to safety, excellence, integrity and innovation. They enable farmers to grow a sustainable, bountiful crop year in and year out.</p> <p>Employer: Ag Reliant</p>	<p>A family-owned and operated with a belief in innovation and the fundamental relationship between soil and plants.</p> <p>Employer: Biodyne</p>	<p>This company works directly with farmers to keep them in the field, to keep them going with the parts and services they need.</p> <p>Employer: Reynolds (video)</p>	<p>This team, located in Romney IN, is always researching and seeking solutions to refine and improve seed technology that will adapt to our changing environment.</p> <p>Employer: Ag Alumni Seed</p>
<p>a John Deere retailer with five locations spanning central Indiana. The company serves farmers, landscapers, homeowners and commercial contractors.</p> <p>Employer: Reynolds</p>	<p>Focuses on harnessing the power of naturally occurring, beneficial microorganisms for use in products that help farmers and improve the planet.</p> <p>Employer: Biodyne</p>	<p>This company started out monitoring the health of bees, but now they have transitioned into grower market using thermal energy cameras to determine the strengths of hives.</p> <p>Employer: Bee Corps (video)</p>	<p>A dynamic and constantly evolving company. Located in Anderson IN, their team is at the farmer's side every day to support the care of their plants in a natural and innovative way.</p> <p>Employer: Italpollina</p>	<p>Manages crops in a digital way that allows them to build grower data that provides yield & economic benefit to the grower.</p> <p>Employer: Advanced Agrilytics (video)</p>

Employer BINGO

Directions: Go to the [Employer Pages](#) link on Field Atlas. Look through the **employer information and videos** to determine which employer each box is describing. Your goal is to get a bingo. Your teacher will let you know what type of Bingo you are playing, example traditional, four corners, cover all, etc. You may use a company more than once.

<p>A large company with a small company feel located in Greenfield, IN that globally helps with food insecurity & food safety. They make personal growth & development a priority.</p> <p>Employer: _____</p>	<p>Efforts focus on producing high-performance popcorn hybrids. Possible careers with this company include: Biologist, Soil Scientist, Plant Geneticist, Agronomist, Research Scientist, and Plant Biologist</p> <p>Employer: _____</p>	<p>A multimillion agbioscience company that helps feed the world. They have an open culture that embraces everyone while creating a fun work environment.</p> <p>Employer: _____</p>	<p>This company brings a global presence, deep knowledge and diverse resources to explore what's next in digital agriculture, creating higher yields and raising the bar on crop protection.</p> <p>Employer: _____</p>	<p>Located in Atlanta IN, this company uses their resources and widely skilled research team to provide best-in-class products and resources to farmers in the field, including the use of drones.</p> <p>Employer: _____</p>
<p>This company combines their love for soil, agronomy and data to create custom, sustainable solutions that maximize crop efficiency -- saving farmers time, money and hassle.</p> <p>Employer: _____</p>	<p>People are what make this company special. This largest U. S. family-owned seed company sponsors trips for employees and has stated a Farm to Institution Program.</p> <p>Employer: _____</p>	<p>This company believes that the more minds that come together, the better the ideas get. They are building the world's first seed foundry, reintroducing genetic diversity and working to address some of today's major challenges.</p> <p>Employer: _____</p>	<p>Located in Greenfield IN, this company provides innovative solutions that protect and enhance animal health. Their work empowers veterinarians and food producers to help animals live better lives.</p> <p>Employer: _____</p>	<p>Digital agriculture technology company with a long-term commitment to improve across the globe using artificial intelligence.</p> <p>Employer: _____</p>
<p>Operating today in more than 70 countries worldwide, this company offers a wide range of biotechnological and certification solutions for sustainable modern agriculture.</p> <p>Employer: _____</p>	<p>An international leader in animal health and nutrition, providing industry-leading solutions that meet the challenge of providing animal protein to feed the world.</p> <p>Employer: _____</p>	<h2>Free Space</h2>		<p>Made up of a diverse team of people who are more than just a job title. This agriculture lending cooperative is owned and controlled by their customers</p> <p>Employer: _____</p>
<p>Located in Evansville, Indiana, this company offers their customers an in-home smart garden, allowing anyone the opportunity to become their own farmer.</p> <p>Employer: _____</p>	<p>This team focuses on helping farmers grow and a dedication to safety, excellence, integrity and innovation. They enable farmers to grow a sustainable, bountiful crop year in and year out.</p> <p>Employer: _____</p>	<p>A family-owned and operated with a belief in innovation and the fundamental relationship between soil and plants.</p> <p>Employer: _____</p>	<p>This company works directly with farmers to keep them in the field, to keep them going with the parts and services they need.</p> <p>Employer: _____</p>	<p>This team, located in Romney IN, is always researching and seeking solutions to refine and improve seed technology that will adapt to our changing environment.</p> <p>Employer: _____</p>
<p>A John Deere retailer with five locations spanning central Indiana. The company serves farmers, landscapers, homeowners and commercial contractors.</p> <p>Employer: _____</p>	<p>Focuses on harnessing the power of naturally occurring, beneficial microorganisms for use in products that help farmers and improve the planet.</p> <p>Employer: _____</p>	<p>This company started out monitoring the health of bees, but now they have transitioned into grower market using thermal energy cameras to determine the strengths of hives.</p> <p>Employer: _____</p>	<p>A dynamic and constantly evolving company. Located in Anderson IN, their team is at the farmer's side every day to support the care of their plants in a natural and innovative way.</p> <p>Employer: _____</p>	<p>Manages crops in a digital way that allows them to build grower data that provides yield & economic benefit to the grower.</p> <p>Employer: _____</p>

"Catch a Career" Cards



AGRICULTURAL ENGINEER

Investigate agriculture's pressing issues and design solutions in areas such as power supply, machine efficiency and water/air pollution.



AGRICULTURAL TECHNICIAN

Support and conduct farm research and experiments with the intent to increase productivity of crops and animals.



AGRONOMIST

Use experimentation and research to improve the quality and production of crops for use in food, fuel and fiber.



AI/MACHINE LEARNING ENGINEER

Use software engineering skills to develop artificial intelligence programs that enable machines to be self-directed.



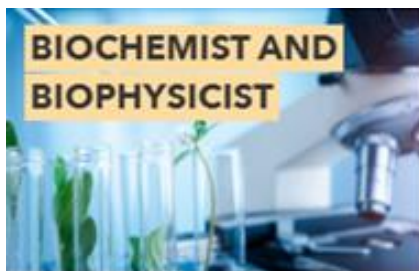
ANALYTICAL CHEMIST

Examine, study and test the chemical composition and behaviors of various substances.



ANIMAL GENETICIST

Investigate and solve the mystery of genes and their impact on animals' growth, behavior, reproduction and disease resistance.



BIOCHEMIST AND BIOPHYSICIST

Study and conduct research on the chemical and physical properties of living things.



BIOENGINEER

Work on the cutting edge of technology and medicine, developing solutions to improve the quality of life.



BIOINFORMATICS SCIENTIST

Develop and use computer technology to manage, analyze and store large sets of biological data.



BIOLOGICAL TECHNICIAN

Help conduct scientific research by providing laboratory support to scientists and engineers.



BIOLOGIST

Studies life in all its forms, functions and its relationships to the environment.



BIOSTATISTICIAN

Analyze data on living things to make predictions and draw conclusions.



CHEMICAL ENGINEER

Apply the principles of chemistry, physics and engineering to design equipment and create processes that are more safe and efficient.




CHEMICAL TECHNICIAN

Support chemists in the lab, getting hands-on to create processes and perform experiments.




CHEMIST

Leaders in the lab; they help us understand the depths of the world we live in so we can make better decisions on how we use it.

A photograph of high-voltage electrical transmission towers against a clear blue sky. The image has a slight blue tint and a digital overlay effect.

CLIMATE CHANGE ANALYST

Study weather patterns to predict climate change, evaluate its potential impact and work to improve environmental practices.

A photograph of a server room with rows of server racks. A laptop is open on a desk in the foreground, displaying data on its screen.

CLOUD ENGINEER

IT professionals who understand, consult and handle the technical workload relating to cloud computing.

A photograph of a person's silhouette in the foreground, looking at multiple computer monitors displaying complex data visualizations and charts.


COMPUTATIONAL BIOLOGIST

Develop models to better understand biological systems and relationships.

A photograph of a laboratory setting with various glass beakers containing colored liquids (blue, yellow, green) and a tablet computer displaying chemical structures.


COMPUTATIONAL CHEMIST

Use chemical science and computer programming to simulate and solve real-world chemical problems.

A photograph of a desk with a laptop, various electronic components like a circuit board, and other tools.


COMPUTER AND INFORMATION RESEARCH SCIENTIST

Problem solvers and innovators-developing new systems while also discovering modern ways to use existing technology.

A photograph of a computer motherboard with a CPU cooler and other components.


COMPUTER HARDWARE ENGINEER

Research, design, develop and test computer systems and related products.

A photograph of a computer screen displaying lines of code in a dark-themed editor.

COMPUTER NETWORK ARCHITECT

Plan and design data and communication networks so devices can send and receive information.

A photograph of a person's hands working on a piece of computer hardware, possibly a network switch or router.

COMPUTER NETWORK SUPPORT SPECIALIST

Monitor, evaluate and troubleshoot all computing issues for individual users and at an organizational level.

A photograph of a person's hands typing on a laptop keyboard.

COMPUTER PROGRAMMER

Write, test and fix the code that allows computers and software to function.



COMPUTER SYSTEMS ANALYST

Unite organizations with advanced computing—applying customized solutions to improve operational output.



CONSERVATION SCIENTIST

Nature's champion—overseeing, improving and protecting the quality of our natural resources.



CYBERSECURITY ENGINEER

Protect internet users from malicious cyber-attacks, hacking attempts and information breaches.



DATA CURATOR

Organize massive amounts of data to streamline the analytics process within all IT, science and business fields.



DATA PROCESSOR

Source, verify and formulate new information for organization databases.



DATA SCIENTIST

Responsible for mining large amounts of unstructured data to extract useful information.



DATABASE ARCHITECT

Investigators and problem solvers – creating and managing large, unique electronic databases to meet business needs.



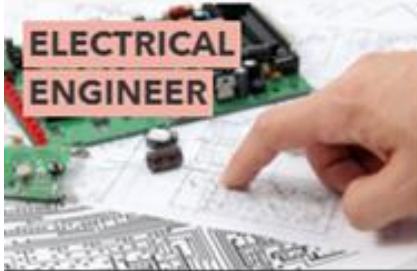
DESIGN ENGINEER

Innovators and creative problem solvers who transform ideas into real world products.



DEVOPS ENGINEER

Manages operational tasks associated with programs and development.



Design, develop, test and solve problems related to devices and systems that produce, or are powered by, electricity.



Design, build and test electronic equipment and systems to continue to advance technology.



Assist engineers in the design and development of computers and other electronic equipment.



Knowledge of insects, how they impact our world and how we impact theirs is crucial to our ecosystem.



Design systems to protect the environment and public health from waste and pollution.



Protect the environment and human health by implementing the plans of environmental engineers.




Problem solvers and researchers –identifying and solving the environment's most challenging and pressing issues.



Relate the microscopic fermentation process to everyday food and medicine, advocating and progressing its use.




Combine science, chemistry and creativity to develop flavorings used in consumable products.



FORMULATION CHEMIST

Design and develop new agbioscience products and innovate existing products based on needs of consumers and the industry.



FULL STACK DEVELOPER

Well-versed in both front end and back end development, typically working on both simultaneously.




FUNGICIDE CHEMIST

Studies chemical compounds to create new or improved formulations that protect crops from fungi.



GEOSPATIAL ANALYTICS SCIENTIST

Master map readers—they analyze and assess geographical information and data to improve software for precision agriculture.



HORTICULTURIST

Apply knowledge to maximize the growth and health of fruits, vegetables, flowers and other types of plants.




HYDROLOGIST

Our go-to scientists and activists for protecting one of Earth's most precious resources: water.




INFORMATION SECURITY ANALYST

Plan and carry out security measures that shield information and computer systems from cyber-attacks.



INFORMATION TECHNOLOGY ARCHITECT

Provide business solutions through the planning and design of customized information systems.



INFORMATION TECHNOLOGY CONFIGURATOR

Focused on software function, ensuring that programs are optimized to best fit an organization's needs.



INFORMATION TECHNOLOGY PROJECT MANAGER

Oversee the planning, execution and team management for technology projects.



INFORMATION TECHNOLOGY SPECIALIST

Apply their expertise to implement, monitor and maintain information technology systems.



INFORMATION TECHNOLOGY WEB DESIGNER

Combine creative layout and technical expertise to build and continuously improve websites.



MECHANICAL ENGINEER

Combine their knowledge of engineering, physics and math to create functional and effective systems that keep our world running.



MECHANICAL ENGINEERING TECHNICIAN

Make mechanical engineering systems efficient and safe for our world.



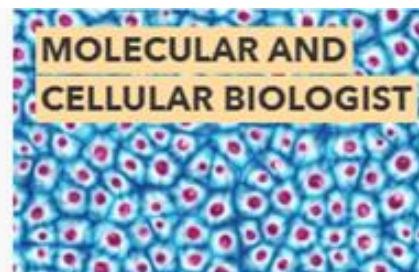
METEOROLOGIST

Use scientific principles to understand, observe and forecast atmospheric conditions.



MICROBIOLOGIST

Study tiny organisms to understand how they influence our entire world and leverage that information to make an impact.



MOLECULAR AND CELLULAR BIOLOGIST

Explore, examine and seek understanding of living things at their most basic level—to make new discoveries.



NUTRITIONIST

Ensure that the food consumed by people and animals supports health, growth, reproduction and nutritional goals.



PLANT BIOLOGIST

Protect our agricultural food sources and create strategies to maximize yield, so that farmers and landowners can feed the world.



PLANT GENETICIST

Research and study plants and crops in order to create new varieties and increase desirable traits.



PRECISION AGRICULTURE TECHNICIAN

Use the tech-savviness to create more and better food, for humans and our environment.



PROCESS ENGINEER

Design, implement and refine industrial processes and equipment that turn raw materials into an end product.



PRODUCTION DEVELOPMENT FOOD SPECIALIST

Manage the development of new food products, from concept through execution.



QUALITY CONTROL ANALYST

Test and ensure that raw materials, manufactured and agricultural goods meet established production standards.



REMOTE SENSING TECHNICIAN

Use photographs to depict the Earth and help us understand how we can best utilize it.



RESEARCH DEVELOPMENT MANAGER

Investigate and study trends and available data so that organizations can develop new projects, products and services.



RESEARCH SCIENTIST

Design, collect and analyze information from controlled lab-based experiments, investigations and trials.



Use their hands-on expertise in robotic equipment to improve and transform their work—and our lives.



Experts, coaches and facilitators for software development teams – ensuring all agreed upon practices and principles are followed.



Envision and design software applications – overseeing all development and ensuring technical standards are met.



Analyze the needs of businesses and consumers to design computer applications that will meet those needs.



Applying the principles of computer science and engineering to design and test operational back-end computer software systems.



Perform testing throughout the development process to ensure that products meet design quality and are ready for end consumers.



Explore and interpret soil characteristics to better understand earth's land and water resources.



Design technical solutions that help organizations' information and computer systems achieve their specific needs.



Use mathematics to analyze and interpret data in order to draw conclusions.

SUSTAINABILITY SPECIALIST

Manage and promote sustainability initiatives at all levels of an organization.

TOXICOLOGIST

Investigate toxins, such as chemicals and radiation, and the adverse effects they can have on people and the environment.

VETERINARIAN

Use their holistic knowledge to treat, protect and sustain animal life for years to come.

VETERINARY TECHNICIAN

Exercise a combination of attention to detail and empathy to provide the best care for animals in a variety of settings.

VETERINARY PATHOLOGIST

Diagnose diseases by going straight to the source—they examine animal tissues and body fluids—to help sustain animal health.

VITICULTURIST

Experts in the growing of grapes and apply their knowledge to produce the quantity and quality of grapes needed to make wine.

ZOOLOGISTS AND WILDLIFE BIOLOGIST

Study animals, their behavior and their relationship to their environments.