

THE **POWER** OF ROLE MODELS

A Collection of Native American
Role Models

FIRST EDITION

POWER OF ROLE MODELS

SEPA Role Model Poster sets are available on their website. http://www.unmc.edu/rhen/role_model_poster.htm

Science Education Partnership Award (SEPA) at the University of Nebraska Medical Center

Building Bridges: Health Science Education in Native American Communities is a national program funded by the National Center for Research Resources, an institute of the National Institutes of Health. This federal grant program (OD011071) is funded by a Science Education Partnership Award from National Institutes of Health. It is a partnership between the University of Nebraska Medical Center (UNMC), the Great Plains Tribal Chairmen's Health Board (GPTCHB), and K-12 schools in Native American communities.

The objectives of the program are:

- To stimulate student interest in science
- To develop higher science/technology competency in the workforce
- To improve society's science and health research literacy

The activities of the program are:

- Conduct summer workshops for teachers
- Develop hands-on science curriculum
- Implement professional development and mentorship for teachers
- Establish science camps for middle school students
- Provide science enrichment opportunities for high school students
- Participate in local health fairs and community events

Information about the Native American Role Model Poster sets is available on the web at:

http://www.unmc.edu/rhen/role_model_poster.htm

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SEPA SCIENCE EDUCATION
PARTNERSHIP AWARD
Supported by the National Institutes of Health

UNIVERSITY OF
Nebraska
Medical Center

Maurice Godfrey
Kim Soper
Liliana Bronner



Carol Rempp
Peg Kirby



MUNROE-MEYER INSTITUTE
FOR GENETICS AND REHABILITATION

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Individuals

Bavari, Yvonne	Moose, Stephanie
Begay, Fred	PrettyPaint, Iris
Bitsoi, LeManual Lee	Rickert, Jessica Ann
Blue Spruce, George	Roper, Myhra
Charging Thunder, Anpo	Rousseau, Joe
Chasing Hawk, Dale	Runnels, Todd
Conroy, Otakuye	Sage, Julia
Cornelius, Chris	Siddle, Edie
Drapeau, Glenn	Stabler, Rosette
Eagle Bull, Tammy	Swalley, Millie
Esnayra, Joan	Toothaker, Randy
Giroux, Connie	Watkins, Wayne
Haakanson, Sven	Wright, Sr., Larry
Henderson Scottie	Wilson, David
Herrington, John	Yellowhair, Julius
Jones, Colin	Zephier, Romana
Jones, Myles	
Lafferty, Craig	
Lamenti, Dennis	

Read about their occupations, their cities, their tribal information and visit the colleges they attended. Complete interactive guide.

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Occupations

Agricultural Manager	Marine Biologist
Anthropologist	Nurse
Architecture	Occupational Therapist
Astronaut	Optical Engineer
Astronomer	Physical Therapist
Bioethicist	Physician Assistant
Buffalo Herd Manager	Physicist
Chemical Engineer	Radiology Technician
Clinical Service Administrator	School Psychologist
Dentist	Science Teacher
Doctor of Medicine	Social Worker
Emergency Medical Technician	Veterinary Technician
Environmental Engineer	Veterinarian
Environmental Specialist	
Firefighter	
Immunologist	
Industrial Tech Teacher	
Laboratory Supervisor	

Role Models

Role Models will include tribal affiliation, home town, colleges, aspirations, job skills and special points of individual interest.

Bavari, Yvonne	Moose, Stephanie
Begay, Fred	PrettyPaint, Iris
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Jones, Myles	
Lafferty, Craig	
Lamenti, Dennis	

“Treat and care for people the way you would want to be treated. Enjoy all the ups, downs, and possibilities of the Alphabet. Even though it may be hard and long to get from A to Z, the most important thing is that you get to Z.”

Yvonne Bavari



Ogala Lakota Tribe

Nurse

Omaha, Nebraska



Education

B.S.N. **Nebraska Methodist College Of Nursing**
Omaha, Nebraska

Benefits

“I like my job because, not only do I meet new people, But I help them feel better. I also meet people from different cultures and beliefs; and that is rewarding in itself. It is great to incorporate the cultural beliefs with the spiritual, mental, physical and scientific care of people.”

Special Job Skills

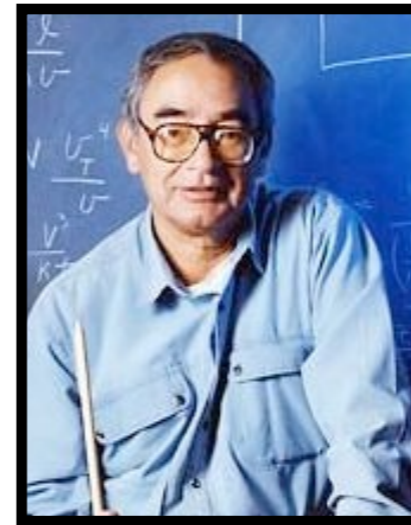
“In my area of care there are requirements of basic life support, advance cardiac life support, spine and orthopedic care, and some human relations along with communication skills are needed.”

Motivation

“I first became interested in the health field when my grandmother (on my mother's side) became ill. I was in my last year of high school. Even though it took me awhile to establish myself into the nursing career/field I always had that feeling of wanting to know more about the body, brain, mind and spirit. And is there a better way than the health field to explore questions and feelings?”

“It is critical that students undertake a sound high school program in science and mathematics to prepare for complex and abstract physics studies in college.”

Dr. Fred Begay



Navajo

Physicist

Los Alamos, New Mexico



Education

B.S. Math and Science, **University of New Mexico**
M.S. **Masters in Physics** at
University of New Mexico
Ph.D. **Nuclear Physics** at
University of New Mexico

Dr. Begay was trained by the Bureau of Indian Affairs to become a farmer and never graduated from high school. He completed his high school in the Army. He has experience on **NASA's high-energy gamma ray project**. Dr. Begay also derived a new electron temperature scaling law for laser-produced plasmas.

Dr. Begay died in April of 2013, leaving a legacy so full of accomplishments. You are invited to read additional information about Dr. Begay at several websites.



Life Acknowledgements

- **Legacy and obituary**
- **NASA**
- **Council of Indian Nations**
- **Physics Central**
- **Careers in Physicists**
- Founded **SACNAS** (Advancing Hispanics/Chicanos and Native Americans in Science?)
- Profiled in the 1979 Nova Film “The Long Walk of Fred Young

Awards

- **American Indian Science and Engineering Society's** Ely Parker Award 1992
- **National Science Foundation's** Lifetime Achievement Award 1994
- Distinguished Scientist Award from the **Society for Advancement of Chicanos and Native Americans in Science** 1999

Reasons why you like your job?

“I enjoy working on education and research projects. I was able to collaborate with national and international scientists. I enjoyed teaching and doing research.”

Special Job Skills

It is critical that skills in abstract reasoning be developed to effectively meet the challenges of studying physics.

How did you become interested in this career?

“I began my college career in mechanical engineering and changed my career to physics when I found answers to my questions about the laws of nature.”

“Be persistent and follow your passion on your educational journey. As you pursue your goals, always remember your Native identity and where you come from.”

Dr. LeManuel Lee Bitsóí



Navajo

Bioethicist

Cambridge, Massachusetts



Education

B.S. University of New Mexico
Ed.M. Administration, Planning and Social Policy
Harvard University
Ed.D. Higher Education Management at University
of Pennsylvania.

2013 Update

Dr. Bitsóí is a research associate in the Department of Organismic and Evolutionary Biology at Harvard University. He also serves as an Education Strategy Consultant for the College Board.

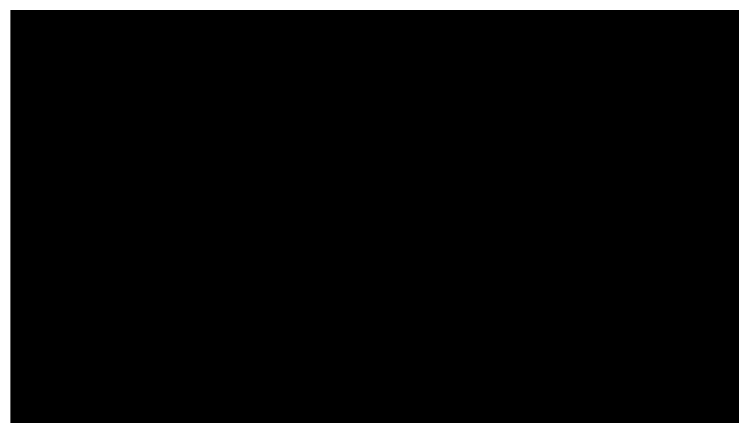
Serves on the SACNAS board.

Member of the Diné Nation

Wal-mart Minority Student Success Initiative

Reasons why you like your job:

- My research in the ethical, legal, and social implications (ELSI) of genetic research has an impact on Native Americans and their communities.
- I assist in the recruitment of Native American students to study genome sciences.
- My job ties many different areas together, such as biology, sociology, anthropology, and law.



Speech at Leech Lake Tribal College, 2012.
15 minutes in length

How did you become interested in this career?

“I was exposed to research opportunities in ELSI that was supported by the National Human Genome Research Institute of the NIH. After understanding that I could assist with bridging the gap between the scientific community and Native Americans in genetic/genomic research by serving as an ambassador, I began to work on different ways to improve understanding of the risks and benefits of genetic/genomic research.”

Special Job Skills

- Writing, communicating with others
Reading and designing research for communities.
- Understanding of the biomedical sciences.
- Ability to advise and mentor students.

“If you want to be a leader, you must get into the game. You cannot do it standing on the sidelines. Do not waste your time. Once you have made up your mind, do not waiver from that goal, no matter how difficult the challenge may be. Remember, you have been born because your Native people need you.”

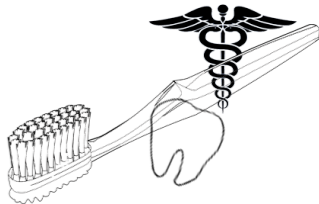
Dr. George Blue Spruce, Jr.



Ohkay Owingeh & Laguna Pueblo
Tribes of New Mexico

Dentist
Retired Assistant Surgeon General

Surprise, Arizona



Education

- M.P.H. Masters of Public Health
University of California Berkeley
- D.D.S. Creighton University School of Dentistry
Omaha, Nebraska

How did you become interested in this career?

After having a painful experience with a visit to the dentist as a child, I thought to myself, “There surely is a way of performing this procedure without it having to hurt so much.” If I was a dentist, I would make every effort to make sure my patient would have a more comforting experience.” Later, as a teenager, a friendly, and kind dentist named Dr. Gaylord Rento inspired me to follow in his profession as a dentist.. He gave me confidence and cheered me on during a bicycle derby n which I participated.

President Emeritus and
Founder of the Society of
American Indian Dentists

Reasons why you like your job

- I have been trained to heal sick gums, fix teeth, replace missing teeth, repair broken bones in the face and mouth. I like helping patients feel good about themselves by giving them a pretty set of teeth to display when they smile.
- I do not like to see people in pain. Being a dentist allows me to eliminate and treat pain so patients can feel good.
- I enjoy the company of others and being friendly.

Notable FIRST Indian Awards

- American Indian graduate from dental school
- American Indian with a Master’s in Public Health
- American Indian to attain rank of Assistant Surgeon General
- American Indian to be assistant dean of a U.S. dental school

Special Job Skills

- Good training in the various phases of dental treatment.
- Ability to interact and communicate effectively with people of all ages, ethnicity and financial backgrounds.
- Good organization and cleanliness.
- Being honest, friendly, warm, patient, understanding, caring, having a good sense of humor.

Other Information (see next page)





**Highlights from
"Searching for My Destiny"
Book Signing
by
Dr George Blue Spruce Jr
6/26/2010**

Watch the video and talk at Dr. Blue Spruce's book signing in 2010.

“Black Elk said that sometimes dreams are wiser than waking’...so dream until you’ve found your calling. Then, act and make that dream come true. Whatever is in your future, do not give up and remember that you need to return to your people first and help them out of the problems that plague them. There is a special place on this Earth for everyone, some just don’t know where that is yet.”

Dr. Anpo Wicahpi Charging Thunder



Ogala Lakota
Physician (general)
Omaha, Nebraska



Education

B.A. Chadron State College
M.D. University of Nebraska Medical Center,
Omaha Nebraska

Benefits

- It’s gratifying to assist in the birth of a child, watch them grow, and help them become healthy, well-balanced adults...without having to yell, ground or scold them!
- Enjoy being respected, having ability to manage my own schedule, practice, and being able to positively affect my patients lives.
- Enjoy being a role model and being able to help my people become a strong, healthy nation once again...mentally, spiritually, physically.

Special Job Skills

“Compassion so you understand what your patients may feel: dedication so you don’t quit when the going gets tough; curiosity to motivate you to keep learning throughout your career; good communication, memory, comprehension and problem solving skills. Friendly (no one wants to see a doctor who doesn’t smile). Sense of humor (so you won’t get too upset), and a strong stomach!”

Motivation

“I saw the poor quality of care given to many people and believed that I could improve delivered care by making positive changes. I wanted a job where I could help people, be respected and be heard (since no one listens to me at home)!. And I needed a well paying job to support my six kids and fund my own programs to help the community.

“Accept the things you cannot change, courage to change the things you can, and the wisdom to know the difference.” (Serenity Prayer)

Dale Chasing Hawk



Rosebud Lakota
School Psychologist
Parker, Arizona

Education

M.A. Counseling, University of South Dakota
Ed.S. Counseling University of South Dakota

Motivation

“I have always had an interest in counseling, so after my career at a major computer company ended, I chose to pursue my master's degree in the counseling field. I enjoyed working with native youth and finishing my school psychology degree on the **Colorado River Indian Tribe** in Arizona. I feel it is my obligation to help as many people as I can to the best of my ability.”

Benefits

- Working with native youth and their families.
- The positive affects you can make in a child's life, watching change occur with the child.
- The variety of the experiences and people one comes across in the mental health field.

Special Job Skills

“A counselor should have patience, understanding, and empathy towards the clients they work with. A counselor should not however feel sorry for their clients because that promotes the client as a victim, and all clients are survivors rather than victims. All clients could grow and succeed if nurtured, much like a little tree can grow to be tall and sturdy if given care.”

“Start exploring different disciplines when you are young--be open not only to math and science, but to liberal arts, as all academic areas are required in any career. Also, start developing good study and test taking skills while you are in high school so that college will be easier.”

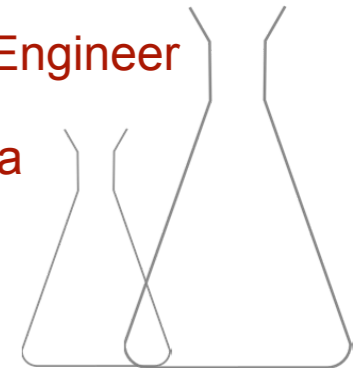
Dr. Otakuye Conroy



Ogala Lakota

Environmental Engineer

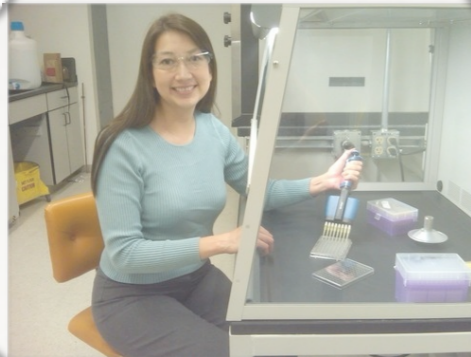
Tucson, Arizona



Education

B.A. University of Notre Dame
M.A. Environmental Engineering
University of Arizona
Ph.D. Chemistry, University of Arizona

Dr. Conroy is a newly appointed Assistant Professor in the Department of Civil and Environmental Engineering at the University of Utah. Her research interests include water and wastewater treatment and reuse, endocrine disruption, analytical and environmental chemistry, and metal resistance systems in bacteria.



First Lakota to earn a doctorate in Environmental Engineering.

Benefits

- New discoveries--I enjoy researching environmental topics not yet explored.
- It is challenging--I am challenged everyday, which drives my work.
- Relevance--water and air quality issues are a concern now more than ever.

Special Job Skills

“For me I have found that discipline and independence are necessary to complete a Ph.D. Environmental Science and Engineering requires a board background in biology, physics, chemistry, and math. Public speaking and presentation is also important since I have to relay information to various agencies.”

Motivation

“I have always been interested in academia and research-my goal is to become a professor at a major university. I love math and chemistry and had wonderful teachers in high school. In addition, I thought it would be important to choose a field that would be beneficial to my community. I would also like to mentor Native American students entering college.”

Other Information

Dr. Conroy has appeared in the movies *Dances with Wolves* and *Miracle in the Wilderness*. She enjoys fancy shawl dancing.



“Never consider failure as a setback in achieving an idea or goal. Use those experiences as an opportunity to learn and grow. The bottom line is to keep pushing forward and never give up.”

Dr. Chris Cornelius



Oneida Nation of Wisconsin

Chemical Engineer

Lincoln, Nebraska



Education

B.S. Chemical Engineering,
Montana State University
M.S. Chemical Engineering, Virginia Tech
Ph.D. Chemical Engineering, Virginia Tech

About Dr. Cornelius

Dr. Cornelius is a member of the American Indian Science Engineering Society and the American Chemical Society Committee on Minority Affairs. He also is an adjunct professor of chemistry at Clemson University and chemical engineering at the University of New Mexico, teaching and mentoring Ph.D. students.

He is also an editor for the Journal of Materials Science quarterly series.

Award and Recognition

- Technical Excellence Award, 2006 National Conference American Indian Science and Engineering Society
- Granted four patents

Benefits

- Understanding and solving limitations by developing new materials, and studying their properties.
- Teaching and developing students into future professionals.
- Mentoring and importing experience to others.

Motivation

“While I was in college, I gravitated toward the sciences and discovered that I had an aptitude toward solving problems. When it came time to declare a major, I decided that chemical engineering was the best fit for me. The dream of becoming a college professor was something I always wanted to do. The challenge of continually learning and sharing this knowledge with others was something I knew I wanted to do with my career.”

Special Job Skills

Excellent verbal and written communication skills as well as people skills.

Strong understanding and being able to apply science and engineering.

Ability to simply complete problems and apply scientific and engineering principles in order to create solutions form abstract problems.



“Learn who you are and lead your life as a good relative. A good relative starts with yourself, then to the family, to the world and out into the entire universe.”

Glenn Drapeau



Yankton Sioux

High School Science Teacher

Marty, South Dakota

Education

B.A. Biology, Minor in Earth Science

2013 Update

Mr. Drapeau serves as Director of GEAR UP, a college prep program for tribal high school students.

Motivation

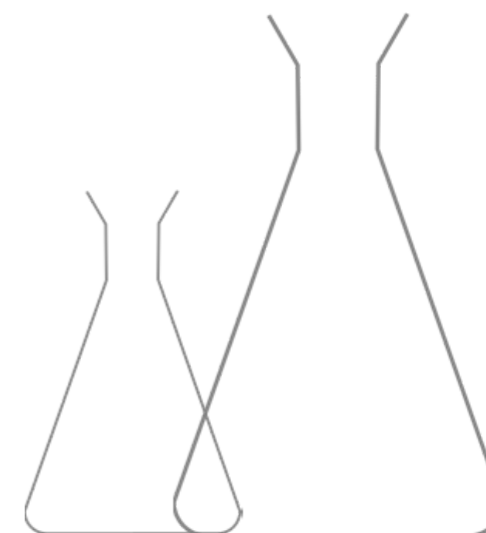
“I didn’t realize until later in life that I was taught the most important education, which was my own *ihanktonwanwan*, way of life. Through teaching, I can educate students in science, but also share the cultural teachings that will empower them as *ihanktonwanwan*, *Dakota*. *These teachings will help them in life and their future careers.*”

Special Job Skills

“A teacher definitely needs to have speaking skills and composure. They need to be able to address individuals with professionalism and confidence. They should also have a solid background in the area of science to be able to explain and teach others.”

Other Information

Mr. Drapeau is a lacrosse player and started the **Lightning Sticks** at his school. He is the lead for the Elk Soldier group which has been nominated for several awards in the Native American Powwow music genre. Read their **Facebook** page.



“As an architect, a business owner, mother, wife, sister, daughter, and friend, it’s hard to ‘to do everything.’ Focusing on what I’m doing at the moment rather than trying to constantly multi-task, helps me achieve the most out of my time. So try to live in the present--focus and concentration on the task at hand will lead to success in your efforts.”

Tammy Eagle Bull



Ogala Lakota

Architect

Lincoln, Nebraska

Education

- B.S. Arizona State University
M.Arch Masters in Architecture
 University of Minnesota-Twin Cities

Tammy is the President of Encompass Architects, P.C.

- Member Nebraska Chapter of American Institute of Architects
- Board member Nebraska Children's and Families Foundation
- Formerly served on the Women’s Business Owner Network and Architectural Foundation of Nebraska boards.

Special Job Skills

Architecture is the combination of art and science. Being creative, as well as analytical is imperative. Strong math and science skills are necessary for the engineering aspects of designing, building and the construction process. Problem solving skills are also needed because there are always a variety of issues that need to be resolved.

How did you become interested in this career?

“I had a talent for drawing and enjoyed looking through books with my father. He helped me explore the possibility of become an architect. He loved the field of architecture, but was discouraged from pursuing that career when he was in high school. With my father’s encouragement, by the time I was in the third grade, I knew I would be an architect and work with tribal communities someday.”

Pahin Sinte Owayawa (Porcupine School), Porcupine, SD (Pine Ridge Reservation)



Gila River Governance Center Lobby, Sacaton, AZ for the Gila River Indian Tribe



Legends Room, Shannon County School, Batesland, SD. Cultural classroom space used to highlight key tribal and community members and teach students about the Lakota culture.



“Be proud of who you are and don’t let anyone keep you from your goals.”

Dr. Joan Esnayra



Yaqui
Scientist & Founder of
Psychiatric Service Dog
Society
Arlington, Virginia

Education

B.A. Philosophy, University of Washington-Seattle
Ph.D. Biology, University of California-San Diego

Benefits of this Career

- Being my own boss
- Having the ability to be flexible, creative and solve problems
- Making a difference in the lives of persons living with mental health disabilities

Motivation

“I’ve always had the kind of mind that excels at solving challenging research problems. One day, I made a critical and accidental discovery that gave birth to what would become my eventual career. I discovered that my puppy could detect when I would become sick before I was even aware that I was getting sick. Now, it is extremely rewarding to know that I am making a difference in people’s lives all around the world and helping them to live a better quality of life.

Special Job Skills

- Fearlessness, relentless curiosity, and always seeking answers to one’s questions.
- Admit to your own shortcomings and strive to overcome them.
- Unwavering commitment to hard work of a superior quality.

“Respect your culture and always remember where you came from and the path that brought you to where you are today. Also, have respect for everything around you and treat others as you would like to be treated.”

Connie Giroux



Rosebud Sioux

Laboratory Supervisor

Rapid City, South Dakota



Education

- B.S. Chemistry
South Dakota School of Mines and Technology
- M.S. Technology Management, South Dakota
Schools of Mines and Technology

Connie is the first Native American scientist at the **Sanford Lab Underground Lab Mine Facility**.

Works with the **GEAR UP** program.

Reasons Why You Like Your Job

I like my job because it allows me to participate in outreach activities with tribal organizations and provide a Native American perspective into the work that is conducted. My job also allows me to be involved with all aspects of science and to gain experience in various fields such as safety, constructions, and water treatment process.

How did you become interested in this career?

“I became interested in science and research when I was an undergraduate student studying chemistry and working in an inorganic chemistry research lab. While in graduate school, I became interested in project and safety management and gained experience as an intern at the **NASA's Jet Propulsion Laboratory** in Pasadena, California. The experience and knowledge gained while in college enabled me to have a diverse background which ultimately led to my interest in this career.

Special Job Skills

- The ability to adapt to any situation and be a problem solver.
- It's important to be a leader and a mentor to those you work with, but you should also be able to work in group settings.



Movie of the Sanford Lab Underground Mine Facility

“Try to remember life is a journey and you and only you determine the direction you want to go. Don’t depend on others to help you make a decision that is entirely up to you.”



Dr. Sven Haakanson



Sugpiat/Alutiiq Old Harbor
Anthropologist
Kodiak, Alaska

Education

B.A. English, [University of Alaska in Fairbanks](#)
M.A. [Anthropology, Harvard University](#)
Ph.D. [Anthropology, Harvard University](#)

Haakanson’s research revolves around documenting and preserving the language and culture of the Alutiiq. He was executive director of the Alutiiq Museum.

Awards and Honors

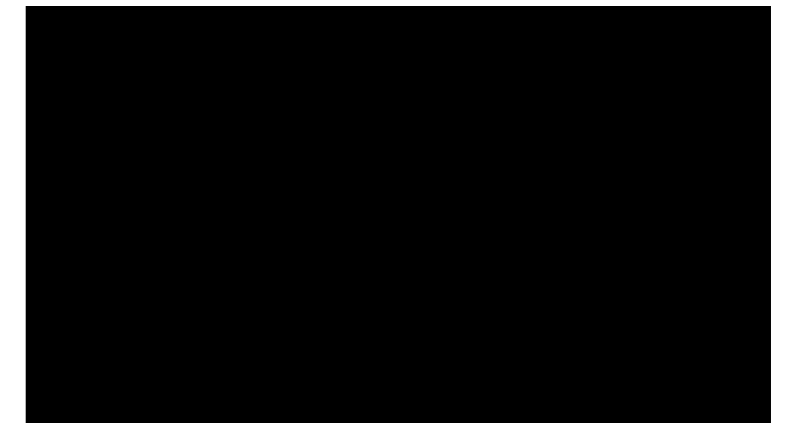
- 2007 McArthur Foundation Fellowship for his work connecting Native people and museum Collections. [\(read the article\)](#)
- [2012 Governor’s Award for Distinguished Service to Humanities](#)
- [2012 Guardians of Culture & Lifeways Leadership](#) award from Association of Tribal Archives, Libraries and Museums.

Benefits

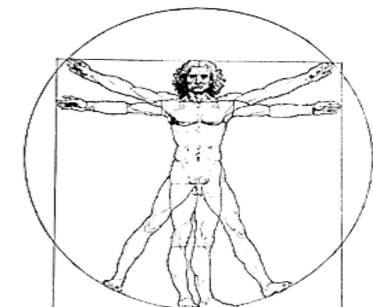
- It’s home.
- I get to learn, share and promote my culture.
- I get to make a difference for our future now.

Special Job Skills

- Working with people
- Being able to listen



Dr. Haakanson being interviewed by
National Geographic 2011



“Be curious about the world you live in, there is so much out there to learn.”

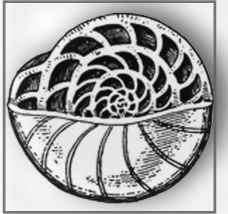
Dr. Scottie Henderson



Navajo

Marine Biologist

Norwalk, California



Education

B.S. Marine Biology
University of California, Santa Cruz
Ph.D. Zoology, University of Washington

Reasons why you like your job

- I get to be outdoors
- The animals I study teach me a lot.
- Animals can be very weird and very cool at the same time!

How did you become interested in this career?

“Like most kids in the 70’s I watched many nature shows, specifically Wild Kingdom and Jacques Cousteau of National Geographic. Also, my father was in the service. He was stationed in Hawaii and I got to go to the beach a lot.”

Special Job Skills

- You need to pay attention to detail.
- You need to have a sense of curiosity.
- Marine biologists work outside in all kinds of weather, rough terrain and long hours--so have much stamina

“Believe in yourself and be confident you can achieve any goal that you wish to accomplish. Also, trust the people who believe in you when they recognize you have potential. I measure my success by the feelings of satisfaction I get from doing a good job. The harder the job, the greater the feeling of satisfaction!”

John B. Herrington



Chickasaw
Retired Naval Aviator and
Astronaut
Houston, Texas

Education

- B.S. Applied Mathematics
University of Colorado
- M.S. Aeronautical Engineering
U.S. Naval Postgraduate School,
Monterey, California

John carried a Chickasaw Nation flag on his eleven-day trip to space. His single space shuttle mission (STS 113) launched November 23, 2002, and landed December 7, 2002, traveling 5.7 million miles. [Read about his mission.](#)

Benefits

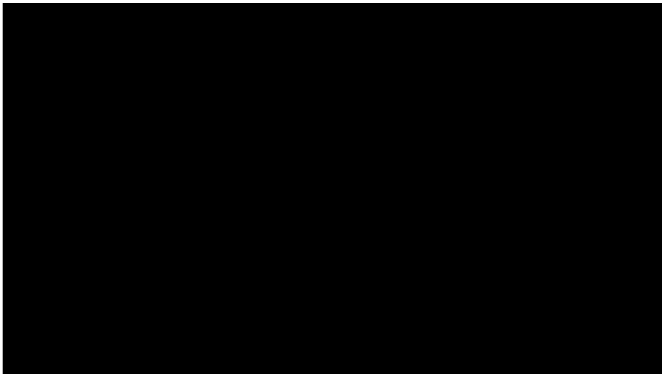
- Since I trained to fly in space, every day was different. Never a dull moment.
- I saw the earth from a perspective that few people every do.
- I get to share the experience with tens of thousands of people around the world.

Motivation

“I have been interested in aviation since I was about ten years old. My father was a pilot and an instructor and he gave me my first flying lesson. Around the same time, I used to dream about being an astronaut and going to the moon. It was not until my senior year in college when I actually pursued a career as a pilot in the Navy. During my tour as a Navy test pilot, I realized that my dream of becoming an astronaut was no longer just a dream, but something attainable.”

Special Job Skills

- The ability to think analytically and problem solve came from my background in applied mathematics and engineering.
- When combined with my skills as a Naval Aviator and test pilot, I had the right mix of academic and operational experience to be success as an astronaut.



November is National Native American Heritage Month. The first Native American astronaut, Cdr. John Herrington, is featured in this edition of DoDLive's Profiles in Heritage.

First Native American
Astronaut

“Young people need to always remember that they represent their community wherever they go. Take the time to go out into the world and develop yourself as a person.”

Colin Jones



Santee & Sisseton

Wahpeton Sioux

Agricultural Manager

Ashland, Nebraska

Education

A.A. **Farm & Ranch Management**
Northeast Community College
Norfolk, Nebraska

Colin is a Master Sergeant in the U.S. National Guard and assisted in Afghanistan with crop practices. He used his knowledge from farm and ranch management to help people learn to plant crops in foreign countries. His work helped people feed their families and provide an income for them by selling their excess produce or grain.



How did you become interested in this career?

“I initially became interested because of two main points:

1. Our family was very poor and paying for college would have been a struggle, and,
2. Long term employment on the reservation is very slim.”

Special Job Skills

The main skill is managing people and property. Also in my job, a person has to be a strong communicator.



Brief outline of Nebraska National Guard assisting Afghanistan crop production.

“You are never too young or old to change your path. If you don’t like the path before you, educate yourself and make a change.”

Myles Jones



Santee & Sisseton-Wahpeton
Oyate

Chief Executive Officer, Indian
Health Services

Lockport, New York

Education

- B.A.E. Biology and Physical Education
Wayne State College, Wayne, Nebraska
- B.S.E. Chemistry Education and Environmental
Science
Northern State University
Aberdeen, South Dakota
- M.P.H. Masters in Public Health
University of Nebraska Medical Center
Omaha, Nebraska

About Mr. Jones

At one time, Mr. Jones was a teacher with Omaha Public Schools. He is the proud father of six children.

Three reasons why you like your
job:

1. Challenges are there everyday and they are never the same.
2. I enjoy giving back to Native People for the blessings the Creator has given to me and my family.
3. It has always been a goal of mine to work for Indian Health Services.

How did you become interested in
this profession?

My aunt was a physician in Indian Country and while there were many challenges, she always talked with a sense of pride about the job she did and the lives she was able to positively have an impact on. Additionally, my mom worked for years trying to make a positive affect Indian Country, so it is only right that I follow in their footsteps.

Special Job Skills

You need to be able to multitask, deal with crisis situations and people that may not want to hear what you have to say. You need to be willing to constantly educate yourself and those around you. Most importantly, you need a passion to assist others.

“Seek out what you want in life and what you want to do. Once you identify it, seek the initiative within you to complete the tasks for success.” Proverbs 3:5-6

Craig Lafferty



Rosebud Lakota

Radiology Technician

Rosebud, South Dakota



Education

B.S. **Radiology Technology, Presentation College**
Aberdeen, South Dakota

Benefits

- To have the opportunity to be directly involved with patient's health care from the delivery of services to quality assurance.
- Being a part of the ever-changing technical advancements that allow me to visualize the human body in different dimensions with different modalities (CT, MRI, Nuclear Medicine).

Special Job Skills

- The ability to interact with all types of and ages of people. Communication is a big part of radiology. As a radiology technologist you need to have a full understanding of the patients' health condition, so that you can use your technical skills to create the proper image that would assist the radiologist in making a diagnosis.
- Good critical thinking skills like the ability to handle stressful or traumatic situations that are outside the norm or textbook.
- The initiative to seek excellence in the services you provide by continuing education after becoming a radiology technologist.

Motivation

“One day my uncle Larry Dubray, (RT9R), PA-C , took the time to introduce me to the field of radiology through textbooks and images that he took. In addition, my mother is a nurse who knew many physicians that provided me with encouragement.”

“Remind yourself from time to time why you started what you are doing. If you can’t remember, then go back to where you can remember it. Be willing to change yourself. Look at the big picture; be willing to give back for, if you honestly look at your life, everything has really been given to you.”

Dr. Dennis Lamenti



Navajo/Zuni
Astronomer
Bloomington, Indiana

Education

- B.S. Physics, San Francisco State University
- M.A. Astronomy, Indiana State University
- Ph.D. Astronomy, Indiana State University

Dr. Lamenti passed away in October 31, 2012.

Awards/Recognition

- First Native American to graduate with degrees in astronomy.
- Created the First Nations Educational and Cultural Center in 2007 at Indiana University.
- Assisted in developing an algorithm for the sky transparency at the observatory on Mauna Kea Hawaii.
- Created a portal for observers to examine nightly observations of supernovae candidates for the Sloan Digital Sky Survey II. This phase was the second of an international, multi-institutions effort to map the universe.

- PowerPoint Chemically Peculiar Stars

Reasons Why You Like Your Job

It fulfills some of the most basic necessities for me as a human being;

1. Spiritual: I want to know more of the Holy People (Diyin Diné), so I learn more about creation. Astronomy is a way to study the creation of the universe and its path toward equilibrium.
2. Intellectual Curiosity: How do stars form? How do galaxies evolve? What fills the space between stars and galaxies? How are they connected? By bringing all fields of science; physics, mathematics, chemistry, thermodynamics, quantum and relativistic mechanics, to name a few, challenges every part of me by the research necessary to examine such questions.

Reasons Why You Like Your Job
Continue

3. Hozho: A Navajo way of living in balance and beauty. This type of work is meaningful to me and requires discipline. Interdependence, creativity, an open mind and by the very nature of studying the universe ultimately humbles me.”

How did you become interested in this career?

At first I thought I would go into particle physics, but as I became more intrigued by the work in dark matter, and the evidence that the universe is filled with dark energy-I was so taken by these mysteries that I really had to learn more! I knew that this field was part of me. The cosmos holds all our stories, and astronomy worked in with my Navajo understanding life, the cycle, beauty and harmony of it all.

continue to next page

Special Job Skills

Skills are something that can be learned, developed and honed. For me, the greatest skill is to be able to convey complex phenomenon in such a way that my grandfather could understand it. Other skills include a good understanding of physics and mathematics. I also believe the future of our understanding of the universe is really in an indigenous holistic approach to the questions and interpreting data.



“Go and do what you want, don’t let people tell you that you that you can’t.”

Stephanie Moose



Rosebud Sioux Tribe

Firefighter

Niobrara, Nebraska

Education

First Responder Firefighting School
[Nebraska Volunteer Firefighter Association](#)

Three reasons why you like this job.

1. I like to help the people in the community to be safe.
2. In a small community what I do is important.
3. I like to drive the big truck.

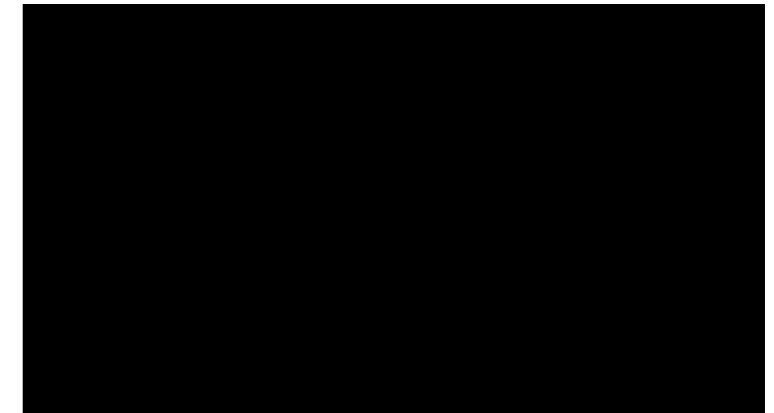
How did you become interested in this profession?

“When I was in high school, I wanted to be a firefighter. When I was able to get the training, I decided to do it.”

What are some special skills you need for this job?

- Stay calm in stressful situations
- Stay fit
- Be brave

[Read more on the Apache 8](#)



Apache 8 is a group of Native American women fighting wildfires.



“We are each born into this world with ‘resilience’ and our task is to learn how to tap into our strength and not give up!”



Dr. Iris PrettyPaint



Blackfeet/Crow
Social Worker
Hardin, Montana

Education

- B.S.W. **Social Work, University of Kansas**
M.S.W. **Masters of Social Work, University of Minnesota**
Ph.D. **Social Work, University of Minnesota**

Dr. PrettyPaint has over 30 years experience as an educator and researcher. She is a leading authority on cultural resilience, student retention, and indigenous evaluation with American Indian and Alaska Native communities.

Benefits

1. Provides the opportunity to work with tribes, colleges, families and communities.
2. I get to travel, visit and share my work with indigenous people all over the world.

Motivation

“I am interested in the kind of research that empowers students, improves programs and honors the intellectual wisdom of our elders.”

Special Job Skills

- Knowledgeable of federal, state and tribal policies that have an impact on health, education and sovereignty.
- Facilitation skills to assist with redefining core issues, creating inclusivity and promoting accountability.
- Passionate about the possibility of creating healthy, functional institutions for tribes.



PrettyPaint speaking at the Go Peace Conference, July 2013



“Do not give up on your dreams. Keep trying, studying and striving; a job well done is its own reward. Serve your community as much as you can and freely share any and all knowledge you have the good fortune to obtain. Be ever thankful for the talents and gifts you have been given, and use them always to the fullest.”

Dr. Jessica A. Rickert



Prairie Band Potawatomi
Nation (Kansas)

White Pigeon Clan (Michigan)

Dentist

Interlochen, Michigan



Education

D.D.S. Doctor of Dental Surgery
University of Michigan

Awards/Recognitions

- Dr. Rickert was inducted in the Michigan Women’s Hall of Fame for being the first female Indian dentist in the world.
- American Dental Association’s Access Award
- Inducted into the Wyoming Public Schools Hall of Fame
- Appearances in many media venues, including radio, television and documentaries.
- National panelist, participating in many prestigious foundations and workshops.

Awards/Recognitions Continue

- Health consultant and contributor to Native News Online, Prairie Band Potawatomi News and to the Native American Rehabilitation Association.

Motivation

“I have always wanted to help people, to improve their lives in a meaningful way. I loved math and science and was very good at them. I desired a practical application of my fascination with the biological sciences, and dentistry fulfills that every day. No two patients are ever alike. My own medical doctor encouraged me to pursue medicine or dentistry when I was 12 years old. In college, I decided that dentistry would fit as a career as well as with my personal life goals. I also wanted to be a respected professional in my community.”

Benefits

- A dentist helps many patients, from 6 months to 110 years old, improve their lives by treating dental diseases.
- Dentistry is constantly challenging and every day is different, never boring. Modern dentistry is always developing
- Private practitioners have control over their dental careers and working conditions. This allows many opportunities for quality family time.

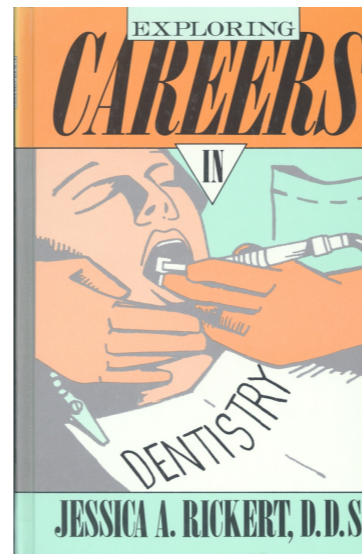
Rickert page 2





Special Job Skills

- A dentist must have a good heart, and must be kind and caring.
- An inquisitive mind is required because the profession is always changing.
- A strong, academic talent for the sciences and math is required.
- Fine motor skills are required daily. There are many ways to develop this, including playing a musical



“Work hard in school and every other area in life. Hard work and determination will always allow you to succeed. Don’t be afraid to be different and follow your own path.”

Dr. Myhra Roper



Cheyenne River Sioux

Physical Therapist

Iowa City, Iowa



Education

B.S.	Medicine University of Nebraska-Lincoln
DPT	Doctorate in Physical Therapy University of Nebraska Medical Center

How did you become interested in this career?

“I was always interested in the medical field and athletics, so I decided to job shadow a physical therapist during my junior year in high school. I decided to pursue this path because the job looked interesting and fun.”

Reasons why you like your job?

- Work with many different people.
- Help people feel and move better.
- Teach people how to be fit.
- Help people return home and to their daily lives.
- I have a good work/home life balance being a Physical Therapist.

Special Job Skills

- Good people and communication skills.
- Interest in science and math.
- Desire to help and teach others.
- Good critical thinking skills.

“Enjoy your time in school, make good decisions, bounce back during the tough times, stay true to yourself, and define yourself. You are on a path that only you will take School is your tool, its there for your to use. Take advantage of it, let it give you opportunities, it can take you places if you let it.”

Joe Rousseau



Cheyenne River Lakota Sioux
Middle School Science Teacher
Lincoln, Nebraska



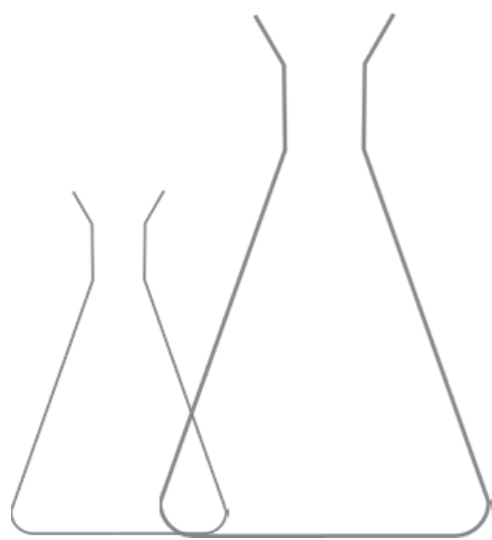
Education

M.A. Curriculum and Instruction, University of Nebraska-Lincoln

Mr. Rousseau works with expelled students and serves on the Indian Parent Advisory Council for the school district.

Awards/Recognition

Indian Center Board Member, Lincoln Nebraska



Motivation

“I thought back to all the jobs for which I had been hired; grocery clerk, store clerk, swimming instructor, lifeguard, and aviation electronic technician in the Navy. I thought of the most enjoyable parts of each of them, put all of this together and come up with teaching.”



Benefits

- I like teaching because each year is unique, eventful and every day is different.
- Teaching is not easy, it is challenging.
- Teaching has many directions, there is always something new to try.
- Generosity-I get to give back to the community.

Special Job Skills

- To be a teacher you need to have a strong sense of commitment to your community.
- Believe all students can learn.
- Have a passion for learning.
- Communication, leadership are all good skills.

“Don’t give up! You may have to work longer and harder to get to the same goal, but when you get there, you are their equal.”

Todd Runnels



Santee Sioux
Industrial Technology Teacher
Niobrara, Nebraska

Education

- A.A. Industrial Technology
Nebraska Indian Community College
- B.S. Industrial Technology Education
Wayne State College, Wayne Nebraska

Three reasons why you like your job

- 1. Work with young people.
- 2. Help students set and achieve goals.
- 3. Lead Santee youth in competition against the world.

How did you become interested in this profession?

I have always wanted to be an Industrial Technology teacher. I was inspired by my own Industrial Arts teacher, Joe Johnson, who was a Santee Sioux tribal member. Mechanics and building have always come easy to me and I am happy to show others what I know.

What are some special skills you need for this job?

Patience-the students don’t do things as well as adults They have to be taught the process, given the skills and provided the experience.

Positive attitude-some days could be better, the next day usually is.

“We have one Earth, we need to help her stay healthy so we can all continue.”

Julia Sage



Santee Sisseton-Wahpeton
Sioux

Environmental Specialist

Niobrara, Nebraska

Education

A.A. Natural Resources, **Nebraska Indian
Community College**, Niobrara, Nebraska

Benefits

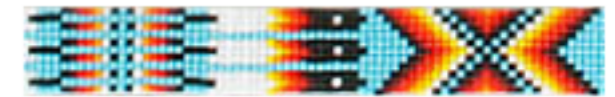
1. Helping the Earth
2. Working outside
3. Guarding the health of creation

Motivation

“I have always liked working in the outdoors and had a passion for environmental issues. It started out with a love of nature and evolved into strong beliefs about the importance of environmental equity and of reversing some of the harm done to the Earth.

Special Job Skills

- **Geographical Information System (GIS) and Global Positioning System (GPS)**
- Putting together documents for environmental sampling
- Collecting data, writing reports, and taking action based on research or observation of food, air, soil and water.

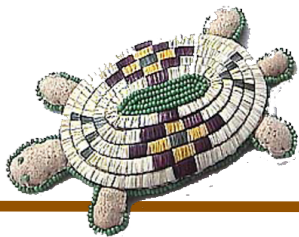


“Any obstacle can be overcome; achievement is merely the marriage of dreams and labor. Economic conditions, ethnicity, and every other factor cease to matter when the life of an animal is on the line; a Native girl from a small farm in Nebraska can be in an intense operating room assisting an emergency surgery on a millionaire’s horse.”

Edie Siddle



Oglala Lakota
Veterinary Technician
Sheridan, Wyoming



Education

- A.A. Associate of Arts, Laramie County Community College, Cheyenne Wyoming
- A.A.S Associates of Applied Science, Eastern Wyoming College

Motivation

“Growing up on a small horse ranch, I have always had a desire to be around animals and to help them in anyway that I can. I believe that helping animals is a very noble cause and is one we can trace back to our ancestors who depended on animals for survival. Being involved in the treatment of injured animals as well a preventive medicine for others is very satisfying.”

Benefits

- Variety is one of the best benefits of my profession, I get to participate in a variety of procedures and work with a variety of animals.
- It is very satisfying to help a creature in need and I enjoy getting to witness the progress of animals as they recover due to our treatment. It is very fulfilling to help something which cannot help itself.



Special Job Skills

- As a vet-tech, you have to wear several hats. I perform the duties of a radiologist, anesthesiologist, dental hygienist, nurse and even occasionally perform surgeon-like tasks like suturing incisions or wounds.
- Thorough knowledge of anatomy, physiology, chemistry, and biology are required to maintain proficiency and are attained through schooling at a reputable college.

“Getting an education is so important! My elders have always said that getting an education is the key to helping ourselves and our people. Although it can be tough in today’s world, it is worth it!”

Dr. Rosette Mitexi Stabler



Omaha Tribe

Occupational Therapist

Walthill, Nebraska



Education

Doctorate in Occupational Therapy
University of Nebraska Medical Center

Motivation

“When I was younger, I received treatment for my hand and was able to regain its function through therapy and splinting; so when it was time to consider careers, I knew that this was what I wanted to do. Occupational therapy is a powerful health profession for native people because we’re not solely looking at the medical ailment, we are considering the person, their environment, family and spiritual well being.”

Benefits

- It looks at the whole person: mind, body and spirit.
- I can help many different people, and help them achieve what is meaningful to them.
- There are endless job opportunities in many different places - hospitals, schools, mental health treatment centers, prisons and clinics.



Special Job Skills

- Need to be creative and think outside the box.
- Listen well and relate to people
- Having a heart to want to help people
- Motivation to be an advocate for your patients.

“Do your best and graduate from college.”

Millie Swalley



Santee Sioux

Emergency Medical Technician

Niobrara, Nebraska

Education

EMT Training **Nebraska Indian Community College**
Currently not offered at this college

How did you become interested in this profession?

“I wanted to be an EMT because I was always interested in nursing and helping people.”

3 Reasons why you like your job

1. Helping people with health issues.
2. Going to conferences for more training.
3. Training onsite in the community.

Special Job Skills

- You can’t be afraid of blood.
- Stay calm, patient and be able to make good decisions when in a crisis.



“No one care how much you know until they know how much you are. I’ve tried to use my professional education and career, in the words of George Washington, “...not only for the pursuit of one’s own happiness, but for the future welfare of others.”

Dr. Randy Toothaker



Cherokee
Dentist and Prosthodontics
Specialist
Lincoln, Nebraska



Education

D.D.S. Doctor of Dental Surgery, University of
Oklahoma, Oklahoma City, Oklahoma

Board Certified Prosthodontics Specialist

Teaches at the University of Nebraska
Dental College, Lincoln, Nebraska

Motivation

“I was fortunate to be exposed to crossing cultural boundaries early in my childhood when a dentist of another race, during a period of social unrest in the 60’s and 70’s, took a personal interest in our family. That impresses me to this day and I will be forever grateful. My career experiences have since included the privilege of meeting and treating individuals all across our nation and worldwide, from South Korea to the Sudan.”

Benefits

Meet people from all aspects of society.

Develop relationships and trust with my patients and their families for a lifetime.

Constantly exposed to new materials and situations.

Special Job Skills

- Sense of service to fellow man.
- Strong desire to give patients confidence and well-being.
- Steer students toward health career fields including dental hygiene and laboratory technology.

Grants and Awards

- January 2005: \$227,459, from the Jacob and Valeria Langeloth Foundation of New York, New York, in coordination with the UNL Department of Anthropology and the Nebraska Foundation, for the implant treatment of 20 Sudanese refugees in the state of Nebraska

“Treat people the way you want them to treat you. Know that money is not the only measure of success.”

Dr. Wayne Watkins



Oglala Lakota Pine Ridge

Veterinarian

McCook, Nebraska

Education

B.S. Chadron State College
DMV Veterinary Medicine, Ohio State University

Motivation

“I have always been interested in the sciences, but was intrigued by the variety offered in veterinary medicine after doing some outreach work while I was in graduate school.”



Benefits

- Diagnosing illnesses in animals.
- Performing surgery on an animal to make it better.
- There is always a variety of things to do and animals to see in a day of work.

Special Job Skills

- Having compassion for people and their pets.
- Being able to have the patience to listen to a complete history of the animal and it's symptoms.
- Communicating your diagnosis and treatment regimen in a way that every client can understand.
- Ability to juggle your life around the demand of the career.



“Knowledge breeds confidence and together they open the doors to your future.”

Dr. David R. Wilson



Navajo

Molecular Immunologist

Manuelito, New Mexico

Education

B.S. Microbiology, Arizona State University
Ph.D. Molecular Biology, Arizona State University

Awards/Recognitions

- Deputy Director of **American Indian Affairs and Science Policy** in Washington, D.C.
- Life Member of **SACNAS**
- Member of SACNAS

Special Job Skills

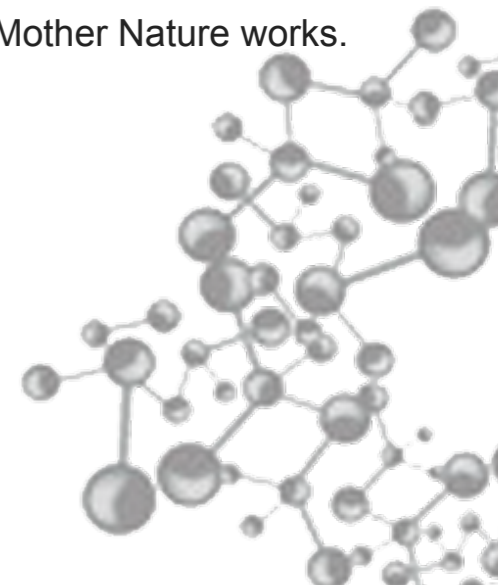
- Strong sense of curiosity.
- Ability to work in teams effectively.
- Ability to effectively communicate ideas and results to both scientists and-non-scientists.
- Apply these “transferable skills” to whatever I do in life.

Motivation

“My motivation to continue on my path is helping other members of our Native communities to be successful in their science careers. Creating communities of Native scientists that support each other to improve the quality of life for all American Indians is my ultimate goal.”

Benefits

- There are endless numbers of questions in biology that need answered. Many of these questions will positively influence our way of life.
- Creating new and innovative methods to answer and understand biological systems.
- Helping provide a more detailed picture of how Mother Nature works.



“Keep your life as simple as possible. Look for solutions to solve your own problems or get advice from more than one person to help you make choices in order to move forward.”

Larry Wright, Sr.



Ponca Tribe of Nebraska

Buffalo Herd Manager

Niobrara, Nebraska



Personal Information

Marty Indian School

Veteran of the Vietnam War

[Read about Mr. Wright's buffalo herd.](#)

Motivation

“This job gives me the opportunity to work for my tribe as an active member of the Intertribal Bison Cooperative helping to restore buffalo to Indian land. The buffalo hold much culture and spiritual significance to our Native American tradition. They have provided a major source of food, shelter, and clothing and continue to teach us the importance of family as well as being part of many spiritual traditions. I feel proud to ensure that the buffalo continue to be part of not only our lives, but our children’s and all generations to come.”

Benefits

- Working outdoors
- Being able to be with the buffalo and constantly learn about their behavior.
- Sharing the things I’ve learned about the buffalo with others.



Special Job Skills

- Knowing how to fix farm machinery.
- Studying the herd, learning their behavior and characteristics, the condition of individual animals, the pasture and fences.
- Planning, assessing improvement, and changes for the coming seasons to avoid problems.



“ To succeed, you must first fail. Don’t be afraid to fail, but don’t approach an endeavor expecting fail. Failure (and practice) provides the experience and knowledge, which are two important components for leadership.”

Dr. Julius Yellowhair



Navajo (Diné)

Optical Engineer

Albuquerque, New Mexico

Education

B.S.	Optical Engineering, University of Arizona
M.S.	Electrical Engineering, University of New Mexico
M.S.	Optical Science, University of Arizona
Ph.D.	Optical Science, University of Arizona

Awards/Recognitions

- Featured in the **SACNAS Journal**.
- Outstanding Graduate Student in Electrical Engineering
- US Patent No US 8,582,092,B1

Reasons why you like your job

1. The work is never boring; it is always challenging and fun.
2. I get to work and learn from very smart and talented people.
3. I work on projects that I enjoy and make a positive impact for our future society.

How did you become interested in this career?

“Since I was in grade school, I always enjoyed math and science. Math was always my main interest. I spent much time studying math on my own. I used to read and study math books under a kerosene lamp at night and play math games while I was doing my daily chores.”

Special Job Skills

Math skills are essential if you pursue a career in science, technology and engineering. Creativity is also important to come up with new and fresh ideas along with new ways of doing things. Having initiative is also a necessary skill--this true in any field. If you don’t have the initiative, you can feel lost in your employment and can get left behind.



Dr. Yellowhair works at the Sandia National Laboratories in New Mexico. This is a fascinating facility.

“Treat all people/things with respect no matter what age, gender, race or ethnicity. Be a well-rounded individual and exercise your mind, body and spirit. Do something that you are passionate about and surround yourself with good people.”

Ramona Zephier



Cheyenne River Sioux
Physician Assistant
Omaha, Nebraska

Education

MPAS Master of Physician Assistant Studies
University of Nebraska Medical Center,
Omaha Nebraska

How did you become interested in this career?

“I have been interested in orthopedics every since having several sports related injuries in high school and college. I chose to attend physician assistant school because I felt it would better suit my lifestyle as a working mother. After doing several rotations in surgery, I loved being in the operating room. Because of my own past injuries, I have found that I can relate to my patients.”

Reasons why you like your job:

- 1. I am able to help people and make a difference in their life.
- 2. I enjoy the people with whom I work.
- 3. I am able to have continuity of care with my patients. I see them before, during and after surgery.

Special Job Skills

You must have good reasoning skills in order to interview, diagnose and develop a plan of treatment for the patient. Time management is important, as well as being able to communicate well with your team of other health care providers.



Occupations

Occupations will list teaching points, publications to read, websites to explore and more. Each occupation is linked to the individual(s) in the previous chapter.

Most occupations have a two-three minute video on the career overview.

- Agricultural Manager

Anthropologist

Architecture

Astronaut

Astronomer

Bioethicist

Buffalo Herd Manager

Chemical Engineer

Clinical Service Administrator

Dentist

Emergency Medical Technician

Environmental Engineer

Environmental Specialist

Firefighter

Immunologist

Industrial Tech Teacher

Laboratory Supervisor
- Marine Biologist

Nurse

Occupational Therapist

Optical Engineer

Physical Therapist

Physician (general)

Physician Assistant

Physicists

Radiology Technician

School Psychologist

Science Teacher

Social Worker

Veterinary Technician

Veterinarian

Agricultural Manager

Role Model

Colin Jones

Teaching Points

Talk to students about military service being an honorable way to serve our country and to our people. For many young Americans, the benefits of serving can be tremendous: training, honor, education, travel, pay and self-discovery. However, military service is not for everyone. It requires self-discipline, intense physical work and time away from family and friends while protecting America and its citizens at home and abroad. Help students understand service options and benefits so they can make informed choices. Above all, let them know that each decision--to serve our country is not to serve--is personal, vital and honorable.



Website Links

U.S. Department of Labor Occupational Outlook Handbook: agricultural manager

U.S. National Guard

U.S. Department of Agriculture-National Agriculture Library

National FFA Organization

FFA makes a positive difference in the lives of students by developing their potential for premier leadership, personal growth and career success through agricultural education.

ATTRA, National Sustainable Agriculture Information Service

Sustainable agriculture is farming using principles of ecology, the study of relationships between organisms and their environment.

Suggested Books

Operation: Homefront, Caroline b. Cooney

Jobs on a Farm (World of Farming), Nancy Dickmann

Jobs in Sustainable Agriculture (Green Careers), Paula Johanson

Agriculture: The Food We Grow and Animals We Raise, Julie Kerr Casper

Food, Farming and Hunting (American Indian Contributions to the World), Emory Dean Koeke, Kay Marie Porterfield

Science State Standards Links

Nebraska Standards

South Dakota Standards

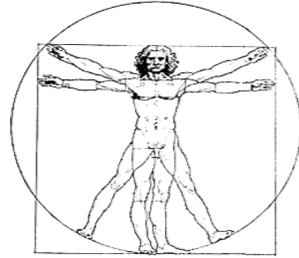


Career Overview (2 minutes)

Anthropologist

Role Model

Sven Haakanson



Teaching Points

Anthropologist is the study of people--where they came from, how they live differently in different societies across the world, how they interact with each other and with their environment, throughout different places and times. Anthropology is an interdisciplinary science, however the field focuses in detail on cultural, biological, linguistic, and archaeological research.

Website Links

[U.S. Department of Labor Occupational Outlook Handbook anthropologist](#)

[American Anthropological Association \(AAA\) \(resources for students\)](#)

[National Association for the Practice of Anthropology](#)

Promote the practice of anthropology and the interests of practicing anthropologists, and to further the practice of anthropology as a profession

[Anthropology.net](#)-discussion, research, stewardship of resources, dissemination of knowledge

Science State Standards Links

Nebraska Standards

South Dakota Standards



Career Overview (2 minutes)

Suggested Books

Bone Detective: The Story of Forensic Anthropologist Diane France (Women's Adventures in Science), Lorraine Jean Hopping

Margaret Mead: Pioneer of Social Anthropology (Great Minds of Science), John Bankston

Anthropologist: Scientist of the People, Mary Batton

Go and Come Back, Joan Ablove

Architecture

Role Model

Tammy Eagle Bull

Teaching Points

Architecture encompasses so many different areas. Art, drawing, building and construction skills, textiles, math, creative design, physics, and certainly engineering.



Website Links

[U.S. Department of Labor Occupational Outlook Handbook: Architect](#)

[The American Institute of Architects](#)
Site for architects association

Famous architect [Frank Lloyd Wright](#)

Science State Standards Links

[Nebraska Standards](#)

[South Dakota Standards](#)



[Designs of Frank Lloyd Wright](#)

[Career Overview \(2 minutes\)](#)

Suggested Books

13 Building Children Should Know, Annette Roeder

Frank Lloyd Wright for Kids: His Life and Ideas, Kathleen Thorne-Thomsen

Iggy Peck Architect, Andrea Beaty

How a House is Built, Gail Gibbons

Astronaut

Role Model

John B. Herrington

Teaching Points

Most students have heard of astronauts and associate them with space, the solar system or the moon. However, many children have never considered that they themselves could potentially be one in the future. Pose the questions to students: Would you ever consider being an astronaut? Do you have the persistence and the interest? What is your dream for the future?

Website Links

National Aeronautics and Space Administration (NASA)
Biographies of astronauts

National Aeronautic Association

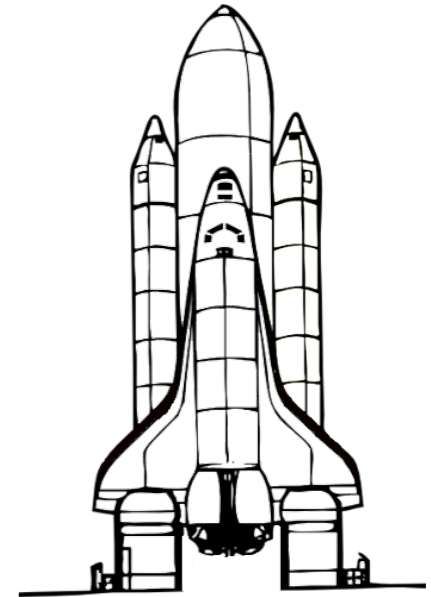
Engology.com Articles: “A Career as an astronaut” and “The Engineered Century”

Astronaut Career Overview video (6 minutes) video is too long to embed in this iBook

Science State Standards Links

Nebraska Standards

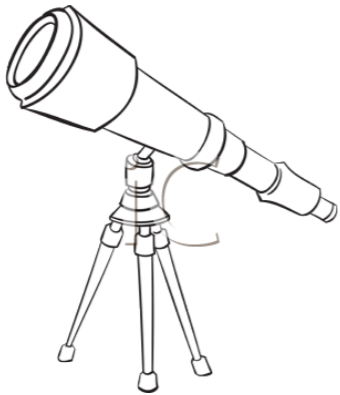
South Dakota Standards



Astronomer

Role Model

Dennis Lamenti



Teaching Points

Astronomers use the principles of physics and mathematics to learn about the fundamental nature of the universe and its components, including the sun, moon, planets, stars, and galaxies. Astronomy is sometimes considered a subfield of physics. Astronomers solve problems in navigation, space flight, and satellite communications. They also develop the instrumentation and techniques used to observe and collect astronomical data. Almost all astronomers do research. Some are theoreticians, working on the laws governing the structure and evolution of astronomical objects. Others analyze large quantities of data gathered by observatories and satellites and write scientific papers or reports on their findings. Some astronomers operate large space-based or ground-based telescopes, usually as part of a team. However, astronomers may spend only a few weeks findings. Some astronomers operate large space-based or ground-based telescopes, usually as part of a team. However, astronomers may spend only a few weeks each year making observations with optical.

Teaching Points Continue

telescopes, radio telescopes, and other instruments. A small number of astronomers work in museums housing planetariums. These astronomers develop and revise programs presented to the public and may direct planetarium operations.

Website Links

U.S. Department of Labor Occupational Outlook Handbook Astronomer and Physicist **Astronomy Magazine**. For the upper elementary and beyond. Great resource and current articles.
Astronomy for Kids. Interactive. Learn about the moon, space exploration and our solar system.
StarChild: A Learning Center for Young Astronomers (K-8) Interactive site on the solar system and universe.
Imagine Universe! (ages 14+)
Navajo-Hope Astronomy Outreach Program, Lowell Observatory, Arizona.
Native American Constellations Native American stories of constellations in a downloadable pdf file.

Suggested Books

Starry Messenger: A Book Depicting the Life of a Famous Scientist, Mathematicians, Astronomer, Philosopher, Physicist: Galileo Galilei, Peter Sis (grades 4-8)

Women Astronomers: Reaching for the Stars (Discovering Women in Science), Mabel Armstrong (grades 7-12)

More Telescope Power: All New Activities and Projects for Young Astronomers, Gregory L. Matloff

The Urban Astronomer: A Practical Guide for Observers in Cities and Suburbs (Wiley Science Editions), Gregory L. Matloff

Science State Standards Links

Nebraska Standards

South Dakota Standards



Career Overview (2 minutes)

Bioethicist

Role Model

LeManuel Lee Bitsói

Teaching Points

Ethics are important in any career. Doing the right thing and helping people make good decisions about how others should be treated or cared for is cross curricular and certainly a life skill.

Website Links

[American Society for Bioethics](#)

[Bioethics.com](#) is a site full of information regarding education, employment, healthcare, nanotechnology, pediatric, public health, emerging technology.

[Presidential Commission for the Study of Bioethics Issues](#)

Science State Standards Links

[Nebraska Standards](#)

[South Dakota Standards](#)



Career Overview (2 minutes)

Suggested Printed Materials

[National Institute of Health: Exploring Bioethics \(grades 9-12\) Curriculum for Teachers](#)

Select bioethics

Dr. Bitsói has numerous publications available on the internet to explore.

Buffalo Herd Manager

Role Model

Larry Wright, Jr.



Teaching Points

Mechanical aptitude and the ability to work with tools of all kinds are valuable skills to maintain and repair machinery needed.

Managing a buffalo herd is very similar to managing cattle, with the difference that buffalo are always going to be wild animals. Having a love for the outdoors, a love for animals, knowledge of range plants and pasture rotation as well as ruminant nutrition are all important to be successful in this job. This industry is being transformed by the implementation of science and technology in almost every phase of the process. For example, branding and vaccinating of herds are largely mechanized in cattle operations. The use of trucks, portable communications gear, and global positioning equipment now is common and saves valuable time for ranchers and other herd managers.

Teaching Points Continue

On livestock-producing farms and ranches, work goes on throughout the year. Animals, unless they are grazing, must be fed and watered every day. Many livestock managers monitor and attend to the health of their herds, which may include assisting in the birthing of animals.

Most herd managers receive their training on the job, often by being raised on a ranch or farm. However, the completion of a 2-year associate degree or a 4-year bachelor's degree at a college of agriculture is becoming increasingly important for those who expect to make a living at ranching or managing herds. Those new to field often spend time working under an experienced rancher to learn how to apply the skills learned through academic training. Those without academic training often take many years to learn how to

Website Links

- U.S. Department of Labor Occupational Outlook Handbook: agricultural manager
- Intertribal Buffalo Council Breeding of buffalo, why is the buffalo sacred and the historic connection, traditional uses of the buffalo, health and nutrition.
- National Geographic American Bison Story
- National FFA Organization Student based organization with scholarships and educational opportunities for individuals interested in farming.
- VIDEO LINK: An Inside Look at the Oglala Sioux Tribe buffalo herd and the industry (8 minutes)

Science State Standards Links

- Nebraska Standards
- South Dakota Standards

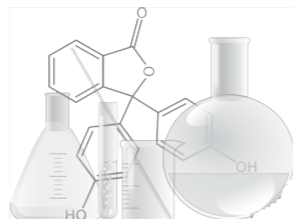
Suggested Books

- Thunder on the Plains: The story of the American Buffalo, Ken Robbins
- Grandfather Buffalo, Jim Arnosky
- Buffalo Jones: The Man Who Saved America's Bison, Carol A. Winn
- Buffalo for the Broken Heart: Restoring Life to a Back Hills Ranch, Dan O'Brien

Chemical Engineer

Role Model

Chris Cornelius



Teaching Points

Chemical Engineers apply physical science and math to convert raw materials to chemicals into more useful or valuable forms. The modern discipline of chemical engineering encompasses much more than just process engineering. They now produce high performance materials used in other applications. Here are a few:

- Aerospace--dye sensitized solar cells and other types of fuel cells.
- Automotive-adhesives and composites for vehicles.
- Biomedical-bio-compatible materials for implants and prosthetics, gels for medical applications.
- Electronic-optical or spectroscopic properties for opto-electronics devices.
- Environmental-air and water treatment technologies and separation processes for pollutants .
- Military applications-pliable bandages that can stop fatal bleeding for trauma,
- Nanotechnology-regenerative medical materials to peed the repair and regrowth of bone blood vessels and soft tissue.

Teaching Point Continue

Some may specialize in a particular chemical process, such as oxidation or polymerization, while others may specialize in a particular field, such as nano materials, or the development of specific products. They must be aware of all aspects of chemical manufacturing and how the manufacturing process affects the environment and the safety of workers and consumers.

Engineers should be creative, inquisitive, analytical and detail oriented. They should be able to work as part of a team and to communicate well, both orally and in writing. Communication abilities are becoming increasingly important as engineers interact more frequently with specialists in a wide range of fields outside of engineering. A chemical engineer is either currently, or has previously, occupied the CEO positions for: 3M, Dupont, General Electric, Union Carbide, Dow Chemical, Exxon, BASF, Gulf Oil, Texaco, and B.F. Goodrich. Even a former director for the CIA, John M. Deutch, was a chemical engineer in training.

Website Links

[U.S. Department of Labor Occupational Outlook Handbook: Chemical Engineers](#)

[American Institute of Chemical Engineers \(AIChE\)](#)

[Sciencebuddies](#) What they do? Career opportunities and example projects.

Suggested Books and Articles

Fireworks (Where's the Science here?), Vicki Cobb

Product Testing: The Chemistry of Ice Cream, Dianne N. Epp

History of Chemical Engineering, Janice Van Cleave

[New PEM Brings Goal of High Temp Fuel Cell Closer, May 2004](#), Chris Cornelius

Science State Standards Links

[Nebraska Standards](#)

[South Dakota Standards](#)



Career Overview 2 minutes

Clinical Service Administrator

Role Model

Myles Jones

Teaching Points

Medical and health service managers are also referred to as healthcare executives or health care administrators. They plan, direct, coordinate and supervise the delivery of healthcare. These workers are either specialists in charge of a specific clinical department or generalists who manage an entire facility or system. They must be familiar with management principles and practices. This is an ideal job for people with an interest in medicine or health care, who do not want to manage patient care and/or have a low tolerance for “blood and guts.”

A master’s degree in health services administration, long-term care administration, health sciences, public health, public administration, or business administration is the standard credential for most generalist positions in this field. However, a bachelor’s degree is adequate for some entry-level positions in smaller facilities, at the departmental level within health care organizations. Physicians’ offices and some other facilities may hire those with on-the-job experience instead of formal education.

Website Links

[U.S. Department of Labor Occupational Outlook Handbook](#) Medical and Health Service Manager

[Explore Health Careers](#) Overview, academic requirements and resources

Professional Organizations

[Association of University Programs in Health Administration](#)

[American College of Healthcare Executives](#)

[American College of Healthcare Administrators](#)

[American Academy of Medical Administrators](#)

Suggested Books

Public Health: What It is and How It Works, Bernard J. Turnock

Student Workbook to Accompany Health Science Career Exploration, Louise Simmers

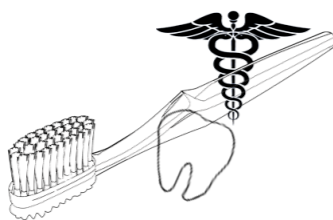
Practical Problems in Math for Health Occupations (Delmar’s Practical Problems in Mathematics Series), Louise Simmers

Science State Standards Links

[Nebraska Standards](#)

[South Dakota Standards](#)

Dentist



Role Models

George Blue Spruce, Jr.

Randy Toothaker

Jessica A. Rickert

Teaching Points

Grades K-2: Dentists are important to our community because they help us take care of our health, our teeth and mouths, just like our other doctors take care of other parts of us. Talk to students about good hygiene through brushing, flossing and care of teeth.

Grades 3-5: Dentistry as a career can be tied to the studying of the digestive system and types of teeth. Studies are showing that oral health care has a huge impact on the rest of our body’s health. Reemphasize good hygiene through brushing, flossing and healthy snacks

Grades 6-8: Students could look at specialties of dentistry, i.e., orthodontics, periodontics, as possible careers as well as how they affect their personal lives and those of their friends.

February is dental health month.

Website Links

Explore Health Careers Great site to explore all careers in medicine and health

U.S. Department of Labor Occupational Outlook Handbook: Dentist

American Dental Association Career information and resources

National Institute of Health-educational resources for K-12 teachers

National Institute of Dental and Craniofacial Research

Suggested Books

The Berenstain Bears Visit the Dentist, Stan & Jan Berenstain

Searching for My Destiny (American Indian Lives), George Blue Spruce

Just Going to the Dentist: Golden Look-Look Book, Mercer Mayer

Open Wide: Tooth School Inside, Laura Keller

Doctor De Soto, William Steig

Throw Your Tooth on the Roof, Selby Beeler

The Right Bite: Dentists as Detectives, Elizabeth Siris Winchester

Exploring Careers in Dentistry, Jessica Rickert. Rosen Publishing, New York, NY.

Randy Toothaker has written numerous journals and papers. Search on the internet for his articles.

Science State Standards Links

Nebraska Standards

South Dakota Standards



Career Overview (2 minutes)

Emergency Medical Technician (EMT)

Role Model

Millie Swalley



Teaching Points

Emergency Medical Technicians (EMT) are also known as ambulance technicians. They are healthcare providers trained to provide pre-hospital emergency medical services. They serve a vital service and role in our communities. In many places, they are volunteers, doing great work and saving many lives throughout the year. This is a job that can be done while simultaneously having another career or job.

EMTs respond to emergency calls, perform certain medical procedures and transport patients to hospitals. They may work in an ambulance service (paid or voluntary), as a member of rescue teams/squads, or as part of the fire or police department. EMTs are trained to assess a patient’s condition and to perform emergency medical procedures needed to keep patients alive until they can get advanced medical care.

Website Links

U.S. Department of Labor Occupational Outlook Handbook: EMT

National Native American EMS Association

National Registry of Emergency Medical Technicians

National Highway Traffic Safety Administration Office of Emergency Medical Services

Explore Health Careers Overview, academic requirements and resources

Science State Standards Links

Nebraska Standards

South Dakota Standards



Career Overview (2 minutes)

Suggested Books

What Does An EMT Do?, Anna Louise Jordan

First Response: By Land, Aileen Weintraub

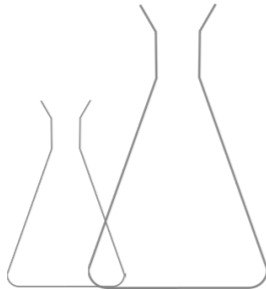
A Day in the Life of an Emergency Medical Technician, Heather Adamson

Careers for the Twenty-First Century - Emergency Response, Tamara Thompson

Environmental Engineer

Role Model

Otakuye Conroy



Teaching Points Grades K-8

Environmental Engineering is the application for science and engineering principals for improving the environment (air, water, and/or land resource) and providing ways to ensure healthy water, air and land for humans and other organisms to live on.

Environmental engineers work with issues involving water, and air pollution control, recycling, waste disposal, and public health, have some knowledge of environmental engineering law, and study the environmental impact of proposed construction projects.

Website Links

[U.S. Department of Labor Occupational Outlook Handbook: Environmental Engineers](#)

[Natural Resources Defense Council-Kids' Links](#)
short videos on global warming, protecting ocean life and prevention pollution

[Environmental Protection Agency](#) (EPA Student Center)

[American Academy of Environmental Engineers](#)

Science State Standards Links

[Nebraska Standards](#)

[South Dakota Standards](#)



Career Overview (2 minutes)

Suggested Books

I Want to be an Engineer, Stephanie Maze

Earth Book for Kids: Activities to Help Heal the Environment, Linda Schwatz

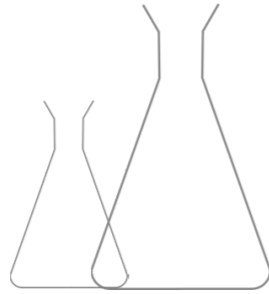
A Child's Introduction to the Environment: The Air, Earth, and Sea Around Us, Michael and Dennis Driscoll

Environmental Science Activities Kit: Ready-To-Use Lesson, Labs, and Worksheets for Grades 7-12 (J-B Ed: Activities), Michael I. Roa

Environmental Specialist

Role Model

Julia Sage



Teaching Points

Environmental specialists protect and preserve the well-being of the environment and human health. The broad field of contemporary environmental problems faced by the nation include drinking and surface water quality, solid and hazardous waste storage and disposal, indoor and outdoor air quality, radiological health, occupational health, systems ecology (interrelationship of organisms and their environments), and housing hygiene.

Environmental specialists-technician level, collect and analyze hazardous samples, record information, prepare reports, maintain monitoring equipment, inspect facilities such as restaurants, swimming pools for cleanliness and safety, and provide supportive services to environmental engineers and scientific professionals. Environmental specialists-professional level act as consultants, investigators, and evaluators for environmental health and safety issues. They base decisions on concrete evidence gathered under strict standard.

A bachelor's degree or equivalent experience is required for most environmental specialist positions.

Website Links

U.S. Department of Labor Occupational Outlook Handbook: Environmental Scientists and Specialists

United States Environmental Protection Agency

EEkoWorld A PBS website teaches students how they can help take care of the earth from animated characters, games and activities that present facts about ecosystems and pollution.

David Suzuki Foundation Scroll down the resources to download a PDF of the "The Nature Challenge Teacher's Guide;" a comprehensive curriculum for grades 4-7 that helps students make the connection between daily choices and nature.

Eartheasy Website for kids

Suggested Books

Cartoon Guide to the Environment, Larry Gonick and Alice Outwater

Planet Earth (Science Kids), Deborah Chancellor

The New 50 Simple Things Kids Can Do to Save the Earth, Sophie Javna

The Everything Kids Environment Book, Sherri Amsel

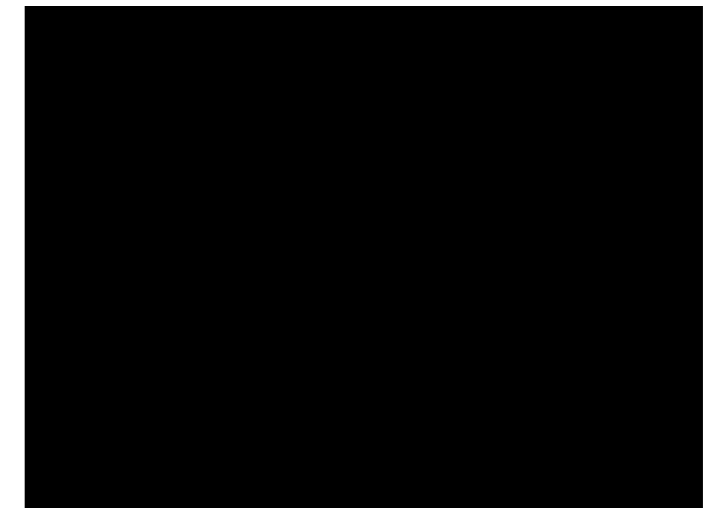
Save the Earth Science Experiments: Science Fair Projects for Eco-Kids, Elizabeth Snoke Harris

Facts on File Dictionary of Environmental Science. Bruce Wyman and Harold Stevenson

Science State Standards Links

Nebraska Standards

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Career Overview (2 minutes)

Firefighter

Role Model

Stephanie Moose

Teaching Points

A firefighter’s goal is to save life, property and the environment. Because firefighters are often the first medically trained responders to arrive on the scene of a medical emergency, they provide many valuable services to the community they serve as Emergency Medical Services, Emergency Medical Technicians, or Licensed Paramedics.

Fighters are community helpers and are honored regularly in the early elementary classroom. Teachers of older students can also honor this profession by including them in the science curriculum. Fire science involves learning about physics, building construction, wind and weather patterns, as well as chemistry in learning about materials and their combustion points.

Website Links

[U.S. Department of Labor Occupational Outlook Handbook: Firefighter](#)

[National Geographic Kids](#) Article on people and places specific to firefighter

[International Association of Firefighters](#)

[U.S. Fire Administration](#)

[National Fire Academy](#) Information about professional qualifications and a list of colleges and universities offering 2-year or 4-year degree programs in fire science or fire prevention

Suggested Books

Fireman’s Safety Hints, Giovanni Caviezel

A Day with Firefighters, Jan Kottke

A Day in the Life of a Firefighter, Heather Adamson

My Mom Is a Firefighter, Lois G. Grambling

Fire in Their Eyes: Wildfires and the People Who Fight Them, Karen Magnuson Beil

FireRescue Magazine is published specifically for the fire company officer and line fire fighter. Covering news from around the country, the magazine depicts fire departments in action with bold photos and informative text.

Science State Standards Links

[Nebraska Standards](#)

[South Dakota Standards](#)



Career Overview (1.5 minutes)

Immunologist



Role Model

David Wilson

Teaching Points

Immunologists particularly are interested in diseases that affect natural immunity. They focus on allergies, sinus infections, pneumonia and abscesses that occur repeatedly even with treatment. Immunologists include research scientists (Ph.D.) who work in laboratories. Immunologists also include physicians (M.D.) who, for example, treat patients with immune system disorders. Some immunologists are physician scientists who combine laboratory research with patient care.

Grades K-2: Every child has had an immunization shot-ask students why they had to have those shots to protect them from getting that disease. That's the job of our body's immune system and the job of immunologists to find ways to protect us from disease. Start a discussion of only taking your medicines and not someone else's, because medicine is specialized for treating certain conditions.

Teaching Points Continue

Grades 3-5: When studying the body systems, especially the immune system, raise questions about why we have vaccinations, how people get sick, why some people are allergic to certain things, etc.

Grades 6-8: Have a discussion of those diseases that attack the immune system i.e. multiple sclerosis, HIV, and their long term effects, maybe appropriate for students of this age.

Website Links

National Institutes of Health Office of Science Education - Lifeworks® curriculum units

American Academy of Allergy, Asthma & Immunology

American Association of Immunologists High School Teachers Program archive of curricula

Science State Standards Links

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Career Overview (1.5 minutes)

Suggested Books

Germs Make Me Sick, Melvin Berger & Marilyn Hafner

Vaccinations (My Health), Alvin Silverstein

Magic School Bus: Inside Ralphie, Johanna Cole

Dr. Jenner and the Speckled Monster: The Search for the Smallpox Vaccine, Albert Marrin

Pasteur's Fight Against Microbes, Beverly Birch and Cristian Birmingham

Louis Pasteur: Founder of Modern Medicine, John Hudson Tiner

Industrial Technology Teacher

Role Model

Todd Runnels

Teaching Points

A degree in Industrial Technology is ideal for individuals that are good at science and intrigued by the business world. Industrial technologists apply the scientific method to business problems by studying inputs and outputs, conducting experiments and gathering data to skillfully manage technological systems. This field is not to be confused with industrial engineering. Industrial Technologists do not study how to actually design industrial applications or systems, but focus instead on their operation and management. Subjects covered in Industrial Technology degree programs include: chemistry, physics, math, manufacturing and the scientific method. Possible career paths for graduates in this field include: Industrial Production Management-overseeing the production of goods in an assembly or other production facility.

Teaching Points continue

- Cost Estimation-pricing parts and materials to product goods or maintain business functions.
- Computer Systems Analyst-examining and modifying information systems to best suit an organization's needs.
- Teaching-sharing passion of industrial technology and preparing youth for a profession in this career field.

Website Links

- U.S. Department of Labor Occupational Outlook handbook: Career and Technical Education Teachers
- U.S. Department of Labor Occupational Outlook handbook: Industrial Engineering
- U.S. Department of Labor Occupational Outlook handbook: Industrial Production Managers
- Association of Technology, Management, and Applied Engineering (ATMAE)
- Association for Operations Management

Suggested Books

- Careers in Focus: Technicians*, Ferguson Publishing
- Careers in Focus: Manufacturing*, Ferguson Publishing
- Careers in Focus: Engineering*, Ferguson Publishing
- Integrated Mathematics, Science and Technology: Wellness Module 1*, Science and Technology Center for Mathematics.

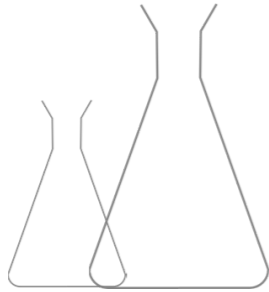
Science State Standards Links

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- South Dakota Standards

Laboratory Supervisor

Role Model

Connie Giroux



Website Links

What does a laboratory supervisor do? Explains carer, goals, coursework and difference types of laboratories.

The Lab Manager Magazine Lab products, lab management, news of upcoming procedures

Association of Lab Managers (ALMA)

Science State Standards Links

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Teaching Points

A lab supervisor is an individual who oversees employees, tests, and experiments in a laboratory. Other tasks may include actively leading teams of researchers on projects, personally analyzing experimental results, and writing technical and professional reports. Scientific laboratories found at research institutions, pharmaceutical companies, and biotechnology firms depend on lab supervisors to ensure projects and trials are carried out appropriately. When results from laboratory tests are available, the lab supervisor often explains findings. Individuals who monitor students and research in university labs are often designated lab supervisors. Often many different professors conduct independent research and teach out of the same laboratory, and it is up to the lab supervisor to collaborate with them to set schedules.

Suggested Books

Super Science Lab, Richard Hammon

Kitchen Lab (You Are the Scientists), Michael Elsohn Ross, Tim Seeley

Engineering the ABC's: How Engineering Kids Storybook, Alane Rivera

Janice VanCleave's Engineering for Every Kid: Easy Activities That Make Learning Science Fun, Janice Pratte VanCleave

Marine Biologist

Role Model

Scottie Henderson

Teaching Points

Marine biologist study marine organisms, their behaviors, and their interactions with the environment. They observe, protect, or manage marine organisms, whether they are microbe, plant or animal. Marine biology is considered one of the most all-encompassing fields of oceanography. Because there are so many topics one could study within the field of marine biology, many researchers select a particular interest and specialize in it. Specializations can be based on a particular species, organism, behavior, technique, or ecosystem.

Website Links

[U.S. Department of Labor Occupational Outlook handbook: Biological scientist](#)

[Marine Science Careers](#)

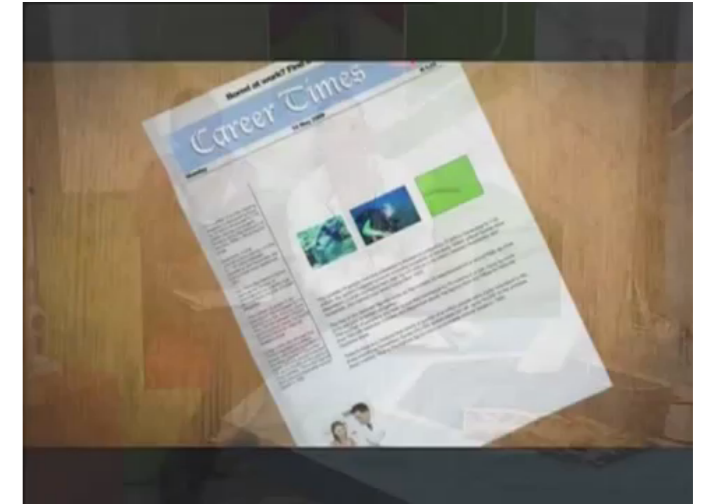
[Marine and Environment Education and Research Inc.](#)

[Monterey Bay Aquarium](#) Load of interactive materials, in-time videos of animals.

Science State Standards Links

[Nebraska Standards](#)

[South Dakota Standards](#)



Career Overview (2 minutes)

Suggested Books

My Visit to the Aquarium, Alikei

The Marine Biology Coloring Book, second edition, Thomas M. Niesen

Animals of Sea and Shore (A New True Book), Illa Podendorf

Marine Biology (Real Kids, Real Science Books), Ellen Doris

Marine Biologist (Cool Careers), William Thomas

Awesome Ocean Science, Cindy A. Littlefield, Sarah Rakitin Cole

You Can Be a Woman Marine Biologist, Florence McAlary, Judith Love Cohen, Janice J. Martin, David A. Katz



Nurse



Role Model

Yvonne Bavari

Teaching Points

Grades K-2: Community helpers--introduce careers in nursing and potentially being a nurse that helps people get better when they are sick.

Grades 3-5: Science, human anatomy, germs--talk about health care and nursing as a career that deals with the human body.

Grades 6-8: Career awareness--Discuss the nursing shortage across the country. They make good money. Schooling can range from two years and up depending on the degree they want to obtain. Stress the importance of both patient nursing as well as advanced degrees to teach nursing.

Website Links

U.S. Department of Labor Occupational Outlook handbook: Registered Nurse

Florence Nightingale & Science Complete curriculum set for grades 1-3

American Nurses Association

Explore Health Careers Overview, academic requirements and resources. Search for nurse and receive a list of nurse specialties such as pediatric, midwife, registered.

Science State Standards Links

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Career Overview (2 minutes)

Suggested Books

Clara Barton: Founder of the American Red Cross (The Childhood of Famous Americans), Augusta Stevenson

A Picture Book of Florence Nightingale (picture book biography), David a. Adler, John Wallner, and Alexandra Wallner

Heart and Soul: The Story of Florence Nightingale, Gena K. Gorrell

Cherry Ames Nursing Series, Helen Wells

Occupational Therapist



Role Model

Rosette Stabler

Teaching Points

Occupational Therapists (OTs) help people improve, develop and recover and maintain their ability to perform tasks in their daily living and work environments. They work with individuals who have conditions that are mentally, physically, developmentally, or emotionally disabling. OTs not only help people improve basic motor functions and reasoning abilities, but also compensate for permanent loss of function. Their goal is to help people have independent, productive and satisfying lives.

Website Links

[American Occupational Therapy Association](#)

[U.S. Department of Labor Occupational Outlook handbook: Occupational Therapist](#)

[Explore Health Careers](#) Overview, academic requirements and resources

[Handwriting Without Tears](#) Handwriting Without Tears (HWT) is a way to teach pre-printing, printing and cursive. It was developed by J. Z. Olson, OTR, an occupational therapist and handwriting specialist. She has more than 25 year of experience helping children and training teachers and therapist. HWT is an inclusive method for teaching children of all ability levels.

Science State Standards Links

[Nebraska Standards](#)

[South Dakota Standards](#)



Career Overview (1.5 minutes)

Optical Engineer

Role Model

Julius Yellowhair

Teaching Points

Ways to include this career in your curriculum would include anything to do with optics, lenses, Astronomy or telescopes.

Websites

What does an optical engineer do?

The Science Spot, Kid Zone: Physics of Light and Sound

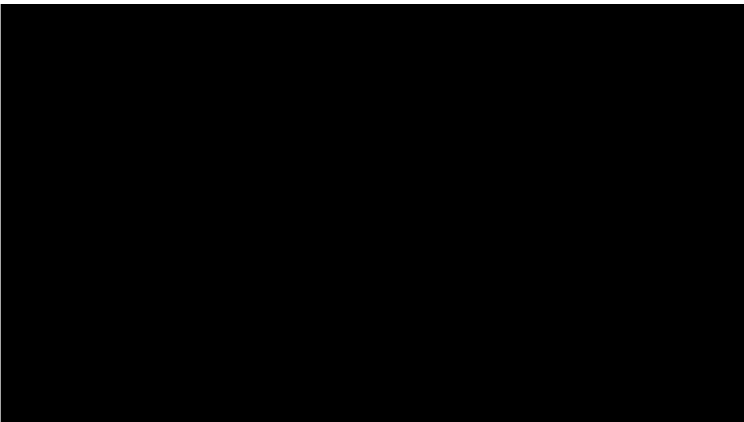
Optics 4 Kids Complete interactive and fun site with highlights for parents and teachers. Great for young children

Physics4Kids Learn about motion, heat, light, magnets and more

Science Standards

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Career Overview (1.5 minutes)

Suggested Books

Isaac Newton and Physics for Kids, Kerrie L. Hollihan

Light Fundamentals: FUNtastic Science Activities for Kids, Robert Wood

The Science of a Pair of Glasses, Brian Williams

Rosie Revere Engineer, Andrea Beaty



Physician

Role Model

Anpo Charging Thunder

Teaching Points

Grades K-2: Community helpers--talk about the importance of doctors when we are sick and that some doctors specialize in certain fields.

Grades 3-5: Tie into science, human anatomy. Discuss the need for doctors to treat different illnesses and specialize in an area of expertise to better help their patients.

Grades 6-8: Career awareness--talk about the different areas of speciality within the field of medicine. Have students interview a doctor in their area and ask why they chose that particular area of medicine to study.

Website Links

U.S. Department of Labor Occupational Outlook Handbook: Physician

Lesson Plan for Grade 6

Careers in Medicine and the Ancient Greeks

Explore Health Careers Gives and overview, academic requirements and resources

American Medical Association

Physicians (doctors) specialize in a wide range of areas. Each field of study is unique after the initial level of school. This can include general practitioner, podiatrist, optometrists, pediatrician, surgeon, anesthesiology and more.

Suggested Books

Doctor Dan, the Bandage Man (Little Golden Book), Helen Gaspard

How do Dinosaurs Get Well Soon?, Jane Yolen, Mark Teague

Froggy Goes to the Doctor, Jonathan London

The first woman doctor: The story of Elizabeth Blackwell, M.D., Rachel Baker

Elizabeth Blackwell: Girl Doctor (Childhood of Famous Americans), Joanne Landers Henry

Science State Standards Links

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General Practice Physician Career Overview
(2 minutes)

Physician Assistant

Role Model

Ramona Zephier

Teaching Points

Physicians assistants are important because of the need for more health care providers. Requires slightly less training than a physician but more training than nursing. Health classes, biology or anatomy are great anchors for this discussion.

Website Links

U.S. Department of Labor Occupational Outlook handbook: Physician Assistant

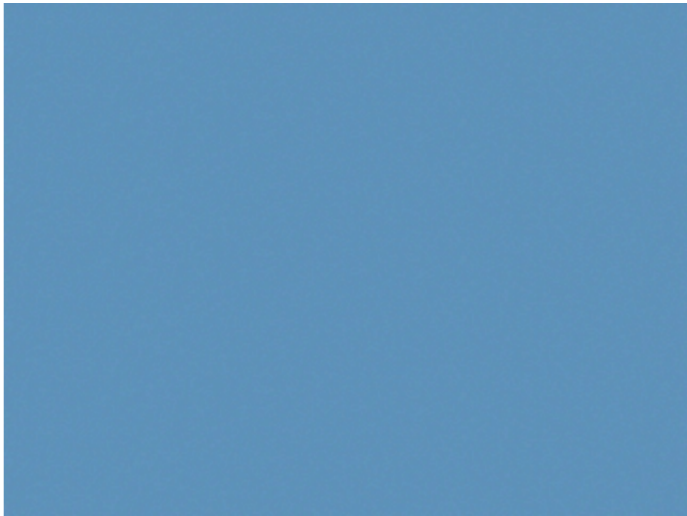
American Academy of Physicians Assistants

Explore Health Careers Overview, academic requirements and resources

Science State Standards Links

Nebraska Standards

South Dakota Standards



Career Overview (2 minutes)

Suggested Books

Physicians’ Assistants and Nurses: New Opportunities in the 21st Century Health System, Cordelia Strange

In Their Shoes: Extraordinary Women Describe Their Amazing Careers, Deborah Reber

Physical Therapist

Role Model

Myhra Roper

Teaching Points

Doctors recommend physical therapy for individuals who have been injured or have movement problems with an illness, disease or disability. They are experts in the knowledge of how your body works and moves and are a team with your doctor.

Example if you break your arm and after the cast is removed, have a difficult time moving the arm, the therapist will show you some exercises to do so you can regain motion.

Websites

U.S. Department of Labor
Occupational Outlook handbook: Physical Therapist

American Physical Therapy Association
<http://www.apta.org>

Explore Health Careers Overview, academic requirements and resources

Science State Standards Links

Nebraska Standards

South Dakota Standards



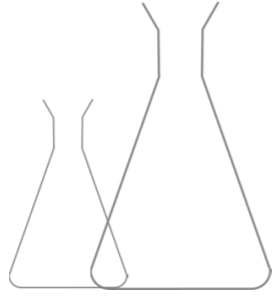
Career Overview (2 minutes)

Suggested Books

Career Diary of a Physical Therapist, Toni Lais

Careers in Sports, Fitness, and Exercise, American Kinesiology Association

Physicists



Role Model

Fred Begay

Teaching Points

Physicists study the natural world, from the tiniest subatomic particles to the largest galaxies. They do experiments to discover the laws of nature. They also learn about energy, study how it changes from one form to another. Three major employers of physicists are academic institutions, government laboratories, and private industries. Many trained physicists apply their skills to engineering, computing, and finance. Some physicists combine their knowledge with future training in other disciplines, such as patent law in industry or private practice. You usually need a doctoral degree (Ph.D.) to work as a physicist. A doctoral degree takes several years of graduate school to complete. People with only a master's degree in physics often get jobs in manufacturing or in research and development. Some teach in high schools or at 2-year colleges. Those with only a bachelor's degree often work as technicians or search assistants. Some may be able to work in applied research jobs in private industry or in non-research positions in the government.

Teaching Points Continue

Some become science teachers in middle schools or high school. To be a physicist, you should study math and science. You must be good at solving problems and be curious about the world around you.

Website Links

[U.S. Department of Labor Occupational Outlook handbook: Physicists](#)

[The Physics Classroom](#) (for high school students)

[The American Physical Society](#)

[National Society of Physics Students](#)

Science State Standards Links

[Nebraska Standards](#)

[South Dakota Standards](#)



Why be a Physicists (3 minutes)

Suggested Books

Janice VanCleave's Physics for Every Kid: 101 Easy Experiments in Motion, Heat, Light, Machines, and Sound, Janice Pratte VanCleave

Super Science: Feel the Force! Full of Pop-Up Physics Fun, Tom Adams and Thomas Flintham

Isaac Newton and Physics for Kids: His Life and Ideas with 21 Activities, Kerrie Logan Hollihan

The Cartoon Guide to Physics, Larry Gonick

Radiology Technician

Role Model

Craig Lafferty

Teaching Points

Grades K-8: If you've ever had an x-ray, you've probably met a radiologic technology. But, did you know there's actually four professional practice areas for radiologic technologist?

Radiographers use diagnostic imaging equipment to produce images of the tissue, organs, bones and vessels of the body. Some radiographers specialize in mammography, computed tomography (CT scans), magnetic resonance imaging (MRI) or other types of imaging.

Sonographers use high-frequency sound waves to create images of anatomy. Nuclear medicine technologists use radiopharmaceuticals and special cameras to produce images of organs and reveal their function.

Radiation therapists administer highly focused forms of radiation to treat cancer and other diseases.

Website Links

[U.S. Department of Labor Occupational Outlook handbook: Radiologic Technologist](#)

[Explore Health Careers](#) Overview, academic requirements and resources

[American Society of Radiologic Technologists](#)

Science State Standards Links

[Nebraska Standards](#)

[South Dakota Standards](#)



Career Overview (2 minutes)

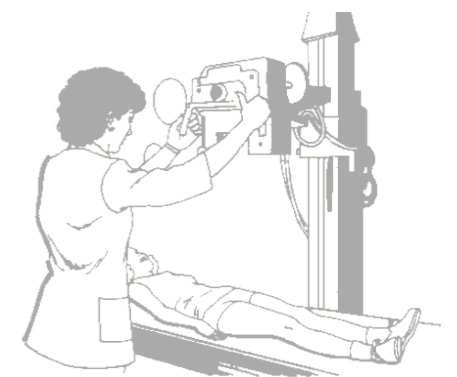
Suggested Books

Jessica's X-Ray, Pagt Zonta

Understanding X-Rays: A Plain English Approach, Mikel A. Rotherberg, M.D.

The X-Ray Picture Book of Amazing Animals, Gerald Legg

Wilhelm Roentgen and the Discovery of X-Rays, Kimberly Garcia



School Psychologist

Role Model

Dale Chasing Hawk

Teaching Points

Grades K-8: School psychologists work with students in early childhood, elementary, and secondary schools. They collaborate with teachers, parents, and school personnel to create safe, healthy, and supportive learning environments for all students. School psychologists address students' learning and behavioral problems, suggest improvements to classroom management strategies or parenting techniques, and evaluate students with disabilities and gifted and talented students to help determine the best way to educate them.

School psychologists are trained in both psychology and education. They must complete a minimum of a Specialist-level-degree program that includes an internship.

School psychologists must be certified and/or licensed by the state in which they work. They may be nationally certified by the **National School Psychology Certification Board (NSPCB)**.

Website Links

U.S. Department of Labor Occupational Outlook handbook: Psychologist

U.S. Department of Labor Occupational Outlook handbook: School and Career Counselors

People, Places and Things That Help Me How your body and brain work, special sections for parents and educators.

Explore Health Careers Overview, academic requirements and resources

National Association of School Psychologist

There are many paths for a psychologist from schools, to general practice, medical facilities, drug facilities and more.

Suggested Books

Life as a Psychologist: Career Choices and Insights, Gerald D. Oster

Pooh and the Psychologists, A. A. Milne



Science State Standards Links

Nebraska Standards

South Dakota Standards



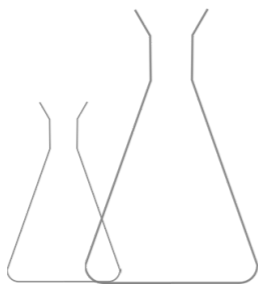
Psychologist General Information
(2 minutes)

Science Teacher

Middle & High School

Role Models

Glenn Drapeau
Joe Rousseau



Teaching Points

A science teacher is a person who find the sharing of science information and discovery a great way to connect with and prepare students for the future.

Most students are familiar with teaching as a profession but haven't necessarily thought about it for themselves. The promotion of science teaching is only going to happen if teachers model the love and excitement they have for teaching.

Website Links

- U.S. Department of Labor
Occupational Outlook Handbook: Teachers. The link has several teaching areas.
- Tops Learning Systems Many ideas with simple supplies
- Natural Science Teacher Association

Science State Standards Links

- Nebraska Standards
- South Dakota Standards

Resources of Middle School Science Teachers

- Science Scope-NSTA's magazine for middle school teachers
- Accidents May Happen, Charlotte Jones
- Physical Science for Everyday, Frank Schaffer
- Blood and Cuts, Linda Allison
- Teaching Physics Using Toys, Beverly Taylor

Resources for High School Science Teachers

- The Science Teacher, NSTA's magazine for high school teachers
- Biology Teacher's Survival Guide, Michael F. Fleming
- Demo a Day for Chemistry, Borislav Bilash, George R. Gross and John K. Kobb

Suggested Books

- What Teachers Can Do, Douglas Wood
- Substitute Teacher Plans, Doug Johnson
- Magic School Bus Series, Johanna Cole
- The Teacher's Funeral, Richard Peck

Social Worker

Role Model

Iris PrettyPaint



Teaching Points

Social workers can be found in a number of facilities including government agencies, foster care and child services, suicide hotlines, rape crisis centers, probation offices and assistance programs.

Students who have a compassion and a desire to help people solve problems that they might not be able to solve on their own could be encouraged to see themselves as social workers in a variety of settings.

Some students may already have prior knowledge regarding social workers or social services.

Website Links

[U.S. Department of Labor Occupational Outlook handbook: Social Worker](#), many areas of social work listed

[National Association of Social Workers](#)

[The New Social Worker Online](#)

[Explore Health Careers](#) Medical social worker

Science State Standards Links

Nebraska Standards

South Dakota Standards



Different areas for Social Workers (4 minutes)

Suggested Books

Billy Had To Move: A Foster Care Story, Theresa Ann Fraser

Social Worker (Careers with Character), Shirley Brinkerhoff

Jane Addams: Pioneer Social Worker (Community Builders), Charnan Simon

Days in the Lives of Social Workers: 54 Professionals Tell "Real-Life" Stories from Social Work Practice, Linda May Grobman

Veterinarian

Role Model

Wayne Watkins



Teaching Points

If you like animals and science you might want to consider being a veterinarian. Animal health care is in many ways similar to human health care, but with a few differences. Veterinarians also have the opportunity to specialize either in large or small animals as well as marine mammals or zoo species.

Veterinarians prevent problems by giving vaccinations and check-ups and fixing teeth. They also teach owners how to feed and train their animals. When an animal is sick, vets examine it to find out why it is not well by looking for clues in the way an animal looks, acts, and smells.

All vets need to go to college first and then go to veterinary college for four years. While in vet school, they learn more science, how to work with animals, do surgery, and do laboratory tests

Websites

[U.S. Department of Labor Occupational Outlook handbook: Veterinarian](#)

[Careers for creature lovers... other jobs in animal care](#)

[American Veterinary Medicine Association Educational Resources](#)

The AVMA educational products and activities are targeted to various grade levels and most can be easily downloaded for use in the classroom

[National Institutes of Health – Lifeworks®](#)
YouTube video on Veterinarian

Science State Standards Links

[Nebraska Standards](#)

[South Dakota Standards](#)



Career Overview (2.5 minutes)

Suggested Books

I Want to Be a Veterinarian, Catherine 'Neill

Grace A Day in the Life of a Veterinarian, Heather Adamson

Vetting: The Making of a Veterinarian, Dr. Pete Freyburger

Caring for Your Pets: A Book about Veterinarians, Ann Owen

Equine ER: Stories from a Year in the Life of an Equine Veterinary Hospital, Leslie Guttman

While You're Here Doc: Farmyard Adventures of a Maine Veterinarian, Bradford B. Brown

Veterinary Technician

Role Model

Edie Siddle



Teaching Points

Grades K-2: A veterinary technician is an important community helper and all children usually have pets or are familiar with taking animals to the vet. This career can be introduced as a possible career choice. As a part of a unit on the zoo, discuss a veterinary technician ability to work with exotic animals.

Grades 3-5: Anything that involves animals and their care are a great way to mention this career.

Grades 6-8: When animal systems are studied, introduce veterinary technician as a possible career choice as an alternative to nursing for those students who are enamored with animals, but have an interest in body systems.

Website Links

U.S. Department of Labor Occupational Outlook handbook: Veterinary Technologist and/or Assistant

National Association of Veterinary Technicians in America

American Veterinary Medicine Association

Science State Standards Links

Nebraska Standards

South Dakota Standards



Career Overview (2 minutes)

Suggested Books

Careers in animal care and veterinary science, Deborah A. Marinelli

ER Vets: Life in an animal emergency room, Donna M Jackson

The Pet Vet, Marcia Leonard

A Day in the Life of a Veterinarian (First Facts: Community Helpers at Work), Heather Adamson

Animal Hospital, Judith Walker-Hodge

All My Patients Have Tales: Favorite Stories from a Vet's Practice, Jeff Wells

