



www.imaginend.com



The Health Science career cluster has opportunities in planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development.

North Dakota Epidemics

Introduction

Great epidemics have played a fascinating role in world history over the course of recorded time. This activity will give the student an opportunity to explore how great epidemics have impacted North Dakota history as well as world history. Students will also be able to explore the opportunity for careers in the health science field.

Warm-Up Activity

Direct the students to research and download information on the epidemics of smallpox, measles, and malaria brought to the Native American peoples by Europeans during the 1500s. Search also for information about the influenza epidemic of 1915-1918 that included North Dakota. Additional research can be done on the bubonic plagues and polio epidemics.

Have students share in pairs the information they have recovered from their searches. Students may also share any family history of members who had experienced any of the researched epidemic diseases.

Procedure

Plan a field trip to a local cemetery or courthouse to review the gravestones or recorded deaths of the community's residents. Look for and record unusual deaths, such as those of infants or young people that may appear. The teacher may have the students record their findings in an Excel document.

Have students collaborate on creating a global timeline tracking epidemics from their research. Then have students compare their field data to their timelines, noting any relationship between the two data sets.

Teachers and students may present materials from PBS [The American Experience | Influenza 1918 | Teacher's Guide](#) as are useful in relating this epoch in history to North Dakota studies.

Students may visit [The Reconstructors Solve Medical Mysteries - Rice University](#) to experience how medical mysteries are solved.

Students may submit reports on epidemics, past, present and future (as threatened by terrorist organizations). Students might also investigate Homeland Security strategies for defense against disease threats. Speakers from the health care entities in the local community could be asked to speak in social studies classes, with students writing summaries of the topics presented to them. Students could also be encouraged to visit [BAM! Disease Detectives](#), to learn more about disease control.

Direct students to download a program of study outlining the careers in health sciences from <http://www.careerclusters.org/plans/Health.doc>. Job availability in North Dakota can be researched at www.northdakotahasjobs.com.

Assessment

Develop a rubric with the main areas to reflect choices of the students using Worksheets, Teaching Tips, and Rubrics from TeaAch-nology.com – www.teAch-nology.com.

Standards

These activities address the following North Dakota Social Studies Standard:

Standard 1: Nature and the Scope of History

- 8.1.1 Understand the role of chronology and perspective in describing historical events and periods of history
- 8.1.2 Understand how key events, people, and ideas contributed to North Dakota history
- 8.1.3 Understand how key events, people, and ideas contributed to United States history.
- 8.1.4 Understand how key events, people, and ideas contributed to world history.

Time Frame

This lesson will take approximately five class periods. One to two periods may be added for speakers.

Resources

1918 Influenza Teacher's Guide - www.pbs.org/wgbh/amex/influenza/tguide/

The Reconstructors Solve Medical Mysteries - Rice University – <http://medmyst.rice.edu/>
BAM! Disease Detectives. -- www.bam.gov/detectives/sars_pr.htm
Career Clusters Plan of Study - <http://www.careerclusters.org/plans/Health.doc>
North Dakota Has Jobs - www.northdakotahasjobs.com
TeAch-nology - www.teach-nology.com

The Cluster/Pathway Model for Finance outlines the pathways and occupations as well as the related cluster knowledge and skills. This model can be located by clicking on Career Clusters at www.imaginend.com.

Career Cluster: Health Science

Planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development.

Sample Career Specialties/Occupations	<ul style="list-style-type: none"> ◆ Acupuncturist ◆ Anesthesiologist Assistant ◆ Art / Music / Dance Therapist(s) ◆ Athletic Trainer ◆ Audiologist ◆ Certified Nursing Assistant ◆ Chiropractor ◆ Dental Assistant / Hygienist ◆ Dental Lab Technician ◆ Dentist ◆ Dietician ◆ Dosimetrist ◆ EMT ◆ Exercise Physiologist ◆ Home Health Aide ◆ Kinesiotherapist ◆ Licensed Practical Nurse ◆ Massage Therapist ◆ Medical Assistant ◆ Mortician ◆ Occupational Therapist / Asst ◆ Ophthalmic Medical Personnel ◆ Optometrist ◆ Orthotist/Prosthetist ◆ Paramedic ◆ Pharmacist/Pharmacy Tech ◆ Physical Therapist / Assistant ◆ Physician (MD/DO) ◆ Physician's Assistant ◆ Psychologist ◆ Recreation Therapist ◆ Registered Nurse ◆ Respiratory Therapist ◆ Social Worker ◆ Speech Language Pathologist ◆ Surgical Technician ◆ Veterinarian / Vet Tech 	<ul style="list-style-type: none"> ◆ Cardiovascular Technologist ◆ Clinical Lab Technician ◆ Computer Tomography (CT) Technologist ◆ Cytogenetic Technologist ◆ Cytotechnologists ◆ Diagnostic Medical Sonographers ◆ Electrocardiographic (ECG) Technician ◆ Electronic Diagnostic (EEG) Technologist ◆ Exercise Physiologist ◆ Geneticist ◆ Histotechnician ◆ Histotechnologist ◆ Magnetic Resonance (MR) Technologist ◆ Mammographer ◆ Medical Technologist / Clinical Laboratory Scientist ◆ Nuclear Medicine Technologist ◆ Nutritionist ◆ Pathologist ◆ Pathology Assistant ◆ Phlebotomist ◆ Positron Emission Tomography (PET) Technologist ◆ RadiologicTechnologist/Radiographer ◆ Radiologist 	<ul style="list-style-type: none"> ◆ Admitting Clerk ◆ Applied Researcher ◆ Community Services Specialists ◆ Data Analyst ◆ Epidemiologist (SHSMD Stratsocieety.org) ◆ Ethicist ◆ Health Educator ◆ Health Information Coder ◆ Health Information Services ◆ Healthcare Administrator ◆ Medical Assistant ◆ Medical Biller/Patient Financial Services ◆ Medical Information Technologist ◆ Medical Librarian/Cybrarian ◆ Patient Advocates ◆ Public Health Educator ◆ Reimbursement Specialist (HFMA) ◆ Risk Management ◆ Social Worker ◆ Transcriptionist ◆ Unit Coordinator ◆ Utilization Manager 	<ul style="list-style-type: none"> ◆ Biomedical / Clinical Engineer ◆ Biomedical / Clinical Technician ◆ Central Services ◆ Environmental Health and Safety ◆ Environmental Services ◆ Facilities Manager ◆ Food Service ◆ Hospital Maintenance Engineer ◆ Industrial Hygienist ◆ Materials Management ◆ Transport Technician 	<ul style="list-style-type: none"> ◆ Biochemist ◆ Bioinformatics Associate ◆ Bioinformatics Scientist ◆ Bioinformatics Specialist ◆ Biomedical Chemist ◆ Biostatistician ◆ Cell Biologist ◆ Clinical Trials Research Associate ◆ Clinical Trials Research Coordinator ◆ Geneticist ◆ Lab Assistant-Genetics ◆ Lab Technician ◆ Microbiologist ◆ Molecular Biologist ◆ Pharmaceutical Scientist ◆ Quality Assurance Technician ◆ Quality Control Technician ◆ Regulatory Affairs Specialist ◆ Research Assistant ◆ Research Associate ◆ Research Scientist ◆ Toxicologist
Pathways	Therapeutic Services	Diagnostics Services	Health Informatics	Support Services	Biotechnology Research and Development
Cluster Knowledge & Skills	<p>Cluster Knowledge and Skills</p> <ul style="list-style-type: none"> ◆ Academic Foundation ◆ Communications ◆ Systems ◆ Employability Skills ◆ Legal Responsibilities ◆ Ethics ◆ Safety Practices ◆ Teamwork ◆ Health Maintenance Practices ◆ Technical Skills ◆ Information Technology Applications 				