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Career Cluster:



The manufacturing cluster includes the planning, managing and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing/process engineering.

North Dakota Cities

Introduction

North Dakota has always had the reputation of being a great state in which to live. Whether it is the lure of the wide open spaces, friendly people, or low crime rate, people say we have something special here. Perhaps the honesty and integrity of the people and their work ethic plays a role in the attraction.

This lesson requires students to research and make comparisons of advantages of selected cities in North Dakota. Students will decide which city in North Dakota is the best location for the manufacturing company.

Warm-Up Activity

State to the students, “North Dakota has captured the attention of the executives of Eatz More Pasta, Inc., a large manufacturer of pastas made from wheat. They want to move their operations to North Dakota, but they want to be sure to choose the perfect city. They realize that wheat is produced in several of the Plains states, but North Dakota wheat and the people are a valuable resource.”

Form four teams representing Bismarck, Dickinson, Fargo and Grand Forks. Additional cities can be added to this scenario as the ideal group should have four team members. Brainstorm in your group to develop reasons for Eatz More Pasta to select your city for its pasta manufacturing plant. Consider some of the following issues:

- Is your city a safe place to live?
- Is there an adequate work force from which to draw employees?
- Is the cost of living competitive?
- Are there good recreational facilities?
- Is there good commercial transportation?
- Are there good schools in the community?

Procedure

Each team will consist of the following experts:

- Safety Analyst - researches and compares crime rates
- Economist - researches the cost of living and compares cost of homes
- Recreation and Health Director - researches available recreational opportunities and medical facilities
- Education expert—researches public and private school systems, colleges, and universities.

Use the resources at www.northdakotahasjobs.com, www.discovernd.com, www.northdakota.info/3BUSINES.HTM, and www.jobsnd.com/seekers/resources.html to discover information for answering the warm-up questions. The teams will analyze which components of those urban areas would lure a company to locate in North Dakota. The teams will determine the advantages of living in their city and justify their beliefs through a power point presentation to persuade the executive of Eatz More Pasta to select their city as its site.

Any one of several representatives from entities listed in the Business and Commerce in North Dakota could be scheduled into the classroom as a guest presenter on career possibilities for North Dakota students.

Assessment

Design a rubric for this lesson by visiting [Worksheets, Teaching Tips, and Rubrics from TeAch-nology.com](#).

Standards

This activity addresses the following North Dakota Social Studies Standards:

Standard 3: Economic Systems

- 8.3.1 Understand the principles governing economic decision-making at the state, national, and international levels.
- 8.3.2 Know the key features of the various kinds of specialized institutions that exist in market economies.

Standard 6: Geography

- 8.6.5 Understand how geography methods and tools are used to interpret the past, understand the present, and plan for the future.

Standard 7: Culture

- 8.7.3 Understand how culture influences family relationships, religion, and social institutions.

Time Frame

This lesson will take approximately four class periods.

Resources

Business and Commerce in North Dakota – www.northdakota.info/3BUSINES.HTM

Discover North Dakota - <http://discovernd.com/education/highered/>

Career Clusters - <http://www.careerclusters.org/plans/Manufacturing.doc>

TeAch-nology - <http://teach-nology.com/>

North Dakota Has Jobs – www.northdakotahasjobs.com

Job Service North Dakota – www.jobsnd.com/seekers/resources.html

The Cluster/Pathway Model for Manufacturing 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: Manufacturing

Planning, managing and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing/process engineering.

Sample Career Specialties/Occupations	<ul style="list-style-type: none"> ◆ Assemblers ◆ Automated Manufacturing Technicians ◆ Bookbinders ◆ Calibration Technicians ◆ Electrical Installers and Repairers ◆ Electromechanical Equipment Assemblers ◆ Extruding and Drawing Machine Setters/Set-Up Operators ◆ Extrusion Machine Operators ◆ Foundry Workers ◆ Grinding, Lapping, and Buffing Machine Operators ◆ Hand Packers and Packagers ◆ Hoist and Winch Operators ◆ Instrument Makers ◆ Large Printing Press Machine Setters and Set-Up Operators ◆ Machine Operators ◆ Managers, Supervisors ◆ Medical Appliance Makers ◆ Milling Machine Setters, Set-Up Operators ◆ Millwrights ◆ Operators, Tenders, Cutters/Brazers, Soldering, Machine Operations ◆ Painters ◆ Pattern & Model Makers ◆ Precision Layout Workers ◆ Precision Optical Goods Workers ◆ Production Associates ◆ Sheet Metal Workers ◆ Solderers and Brazers ◆ Tool and Die Makers ◆ Welders 	<ul style="list-style-type: none"> ◆ Design Engineers ◆ Electrical and Electronic Technicians and Technologists ◆ Electronics Engineers ◆ Engineering and Related Technicians and Technologists ◆ Engineering Technicians ◆ Industrial Engineers ◆ Labor Relations Managers ◆ Manufacturing Engineers ◆ Manufacturing Technicians ◆ Power Generating and Reactor Plant Operators ◆ Precision Inspectors, Testers, and Graders ◆ Process Improvement Technicians ◆ Production Managers ◆ Purchasing Agents ◆ Supervisors 	<ul style="list-style-type: none"> ◆ Biomedical Equipment Technicians ◆ Boilermakers ◆ Communication System Installers/Repairers ◆ Computer Installers/Repairers ◆ Computer Maintenance Technicians ◆ Electrical Equipment Installers/Repairers ◆ Facility Electricians ◆ Industrial Electronic Installers/Repairers ◆ Industrial Facilities Managers ◆ Industrial Machinery Mechanics ◆ Industrial Maintenance Electricians ◆ Industrial Maintenance Mechanics ◆ Industrial Maintenance Technicians ◆ Instrument Calibration and Repairers ◆ Instrument Control Technicians ◆ Job/Fixture Designers ◆ Laser Systems Technicians ◆ Maintenance Repairers ◆ Major Appliance Repairers ◆ Meter Installers/Repairers ◆ Millwrights ◆ Plumbers, Pipe Fitters and Steam Fitters ◆ Security System Installers/Repairers 	<ul style="list-style-type: none"> ◆ Calibration Technicians ◆ Inspectors ◆ Lab Technicians ◆ Process Control Technicians ◆ Quality Control Technicians ◆ Quality Engineers ◆ SPC Coordinators 	<ul style="list-style-type: none"> ◆ Communications, Transportation and Utilities Managers ◆ Dispatchers ◆ Freight, Stock, and Material Movers ◆ Industrial Truck and Tractor Operators ◆ Logistical Engineers ◆ Logisticians ◆ Material Associates ◆ Material Handlers ◆ Material Movers ◆ Process Improvement Technicians ◆ Quality Control Technicians ◆ Traffic Managers ◆ Traffic, Shipping, and Receiving Clerks 	<ul style="list-style-type: none"> ◆ Environmental Engineers ◆ Environmental Specialists ◆ Health and Safety Representatives ◆ Safety Coordinators ◆ Safety Engineers ◆ Safety Team Leaders ◆ Safety Technicians
	Path	Production	Manufacturing Production Process Development	Maintenance, Installation & Repair	Quality Assurance	Logistics & Inventory Control
Cluster K & S	<p>Cluster Knowledge and Skills</p> <ul style="list-style-type: none"> ◆ Academic Foundations ◆ Communications ◆ Problem Solving and Critical Thinking ◆ Information Technology Applications ◆ Systems ◆ Safety, Health and Environmental ◆ Leadership and Teamwork ◆ Ethics and Legal Responsibilities ◆ Employability and Career Development ◆ Technical Skills 					