

#### Overview:

This activity explores careers in the minerals industry via online resources. Careers in the minerals industry refers to everyone from accountants to equipment operators, engineers, heavy-duty mechanics, lawyers, and welders.

**Source:** This lesson has been modified and adapted for Saskatchewan. The original lesson was written for the Mineral Resource Education Program of B.C. ([http://www.mineralsed.ca/i/pdf/InvestigatingCareersInTheMineralsIndustryWeb\\_ME.pdf](http://www.mineralsed.ca/i/pdf/InvestigatingCareersInTheMineralsIndustryWeb_ME.pdf))

**Duration:** One 45 minute class

#### Materials:

- Internet access
- Worksheets

**Instructional Methods:** Independent research

**Note to Teachers:** To work in the Saskatchewan Minerals Industry a high school diploma or equivalent is required.



#### Learning Outcomes and Indicators

##### Grade 6: Connections to Communities

##### CC6.1. Investigate various aspects of careers and their requirements.

- Examine at least one occupation through an exploration of work information such as occupational description, working conditions, earnings, and education/training requirements
- Utilize various sources of information such as parents, relatives, community members, newspapers, and digital resources
- Describe various work roles (such as labourer, entrepreneur, manager) and settings (such as outside, office tower, manufacturing plant) of interest to oneself.

##### Grade 7: Earth's Crust and Resources

##### EC7.2 Identify locations and processes used to extract Earth's geological resources and examine the impacts of those locations and processes on society and the environment.

- Research Saskatchewan careers directly and indirectly related to resource exploration.

##### Grade 7: Connections to Communities

##### CC7.1. Reflect on and express insights about how knowledge and skills learned in school transfer to one's future life and work.

- Research to identify the skills, knowledge and abilities needed in specific economic sectors such as manufacturing, agriculture, business or mining
- Research and report on some key occupations available in the various economic sectors in Canada as represented by sector councils

##### Grade 7: Life and Work Plan

##### LW7.1 Investigate and demonstrate the personal qualities and abilities needed to seek, obtain, or

**create work.**

- c. Compare advantages and disadvantages of secondary and post-secondary programs for the attainment of career goals including university, college, apprenticeship, and entrepreneurship.

### **Grade 9 Connections to Community**

**CC 9.1. Utilize career information to construct an organized plan of career building which reflects an attitude and expectation of lifelong learning.**

- b. Demonstrate how education and training interests relate to various options regarding post-secondary programs, workplace training, and/or entry into the workforce

**CC 9.2. Analyze and express one's own understanding** of how societal and economic needs influence the nature of paid and unpaid work.

- a. Utilize career information resources such as occupation classification systems, labour market information, mass media, and Internet-based information delivery systems to analyze the realities and requirements of various work roles

### **SCIENCE 10**

#### **Career Exploration**

**CE1 Explore the range of science topics addressed in senior science courses.**

### **ENVIRONMENTAL SCIENCE 20**

#### **Career Exploration**

**ES20-CE1 Analyze and explore environmental science related career paths in Saskatchewan, Canada, and the world.**

### **PHYSICAL SCIENCE 20**

#### **Science in Saskatchewan -Career Exploration**

**PS20-SS1 Analyze and explore physical-science related career paths in Saskatchewan, Canada and the world.**

### **EARTH SCIENCE 30**

#### **Career Exploration**

**ES30-CE1 Analyse and explore earth-science related career paths in Saskatchewan, Canada and the world.**

### **PRACTICAL AND APPLIED ARTS**

### **Energy and Mines 10, 20, 30 Module 15: Workplace Safety**

**PRACTICAL AND APPLIED ARTS Career and Work Exploration 10, 20, A30, B30  
Modules 1, 3, 4, 5, 11, 14, 16, 18**

### **Life Transitions 20, 30**

#### **Module 5: Career Self Knowledge**

Students will:

- reassess their abilities, interests, personality and personal standards and identify related careers
- demonstrate use of a range of resources (handbooks, career materials, about market information and computerized career information delivery systems (C)

#### **Module 14: Career Planning**

Students will acquire and evaluate information in order to:

- Recognize how aptitudes, attitudes and abilities affect career planning
- Explore occupations of interest
- Examine potential occupational options
- Consider each alternative career path in terms of educational requirements.

Source: [Saskatchewan Evergreen Curriculum](#)

#### **Other:**

- relate personal attributes and interests to education and career planning
- compare a variety of post-secondary education and training institutions and programs
- relate labour market information (e.g. types of employment, required skills and education, salary range) to careers of interest

### **Big Picture Questions**

1. What careers are there in the Minerals Industry?

### **Background Information**

Saskatchewan's mining industry creates direct and indirect employment for approximately 30,500 people or 6% of total employment, almost 1 in every 16 jobs with a payroll of \$1.5 billion.

In the next 10 years the Saskatchewan Mining Industry will require an additional 15,000 workers. This includes 4000 trades people and over 500 engineers. There are over 120 different occupations in the mining industry to choose from. One of the fastest growing career areas in the mining industry is information technology. Eighty-five per cent of the mining work force presently uses advanced technology.

The average weekly salary of an employee in the mining industry is almost twice that of the average weekly salary of employees in other sectors.

## THE ACTIVITY

(Independent research)

### Activity:

1. Hand out worksheets.  
Students read the information *investigating Careers in the Minerals Industry*, then complete the *Chart Your Path to a Career in the Minerals Industry*.
2. Discussion

## Assessment Evidence

- Students will discover that there are many different careers in the minerals industry. Careers are not only at the mine site but in the offices as well.
- Students will find a career in the minerals industry that they would be interested in and summarize the job description and the education needed for that job.

## Extension

Students could search the mining company websites to see what jobs are currently available. Students will find links to the company websites at the Saskatchewan Mining Association website: <http://www.saskmining.ca/info/Careers/careers.html>

## Resources

**Future Paths** Available at:

<http://www.futurepaths.ca/labourmarkets/mining>

**MiHR Explore for More** [www.acareerinmining.ca](http://www.acareerinmining.ca)

**Mineral Resource Education Program of B.C.**

**Geoscience and Mining Careers.** Available at:

<http://www.mineralsed.ca/s/WorkExperience.asp>

**National Occupational Classification** Available at :

<http://www5.hrsdc.gc.ca/NOC/English/NOC/2006/Welcome.aspx>

<http://www5.hrsdc.gc.ca/NOC/English/NOC/2011/OccupationIndex.aspx>

<http://www30.hrsdc.gc.ca/NOC/English/NOC/2006/SearchAlphabetical.aspx>.

**Relevance Job Chart 2012** Available at:

<http://www.relevancemag.ca/Portals/214715/docs/2012JobChart.pdf>

**Saskatchewan Mining Association website:**

<http://www.saskmining.ca/index.php/info/Careers/careers.html>

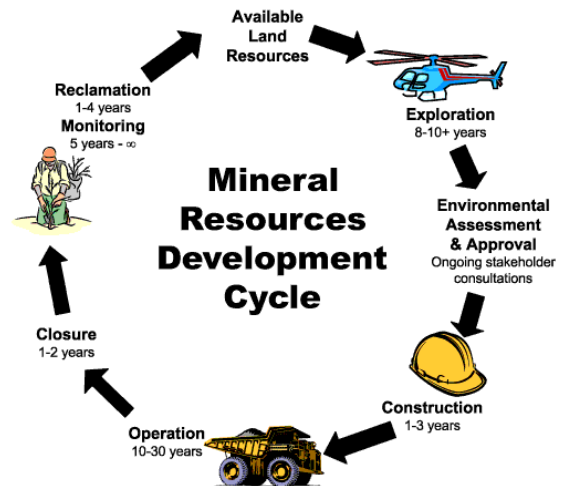
**Saskcareers website:**

[www.saskcareers.ca/content/mining](http://www.saskcareers.ca/content/mining)

## Investigating Careers in the Minerals Industry

Many of the trades and professional careers in Canada are facing severe shortages as many workers are nearing retirement. Like all sectors, demand for skilled workers in the minerals industry is increasing greatly.

Mineral resources development, a cycle which includes **exploration, assessment and approval, construction, operation and reclamation**, employs many skilled workers from accountants to equipment operators, heavy duty mechanics, engineers, lawyers and welders. The jobs are challenging and they pay well. Skills can be applied to jobs anywhere in the world. Many people, who work in a range of different jobs at actual mining operations, commonly work in remote locations but live in the big city.



Source: Mineral Resource Education Program of B.C. Geoscience and Mining Careers.

Check out this PowerPoint by the Saskatchewan Mining Association for a glimpse of several careers in the minerals industry.

### Building Career Opportunities in the Saskatchewan Mining Industry

([www.saskmining.ca/uploads/general\\_files/11/sma-career-expo-presentation-2009.pdf](http://www.saskmining.ca/uploads/general_files/11/sma-career-expo-presentation-2009.pdf))

### Is there a career in the minerals industry for you?

Complete the following worksheet using information from the **FuturePaths**

([www.futurepaths.ca/labourmarkets/mining](http://www.futurepaths.ca/labourmarkets/mining)), **Saskcareers**

([www.saskcareers.ca/content/mining](http://www.saskcareers.ca/content/mining)) and **Explore for More**

([www.acareerinmining.ca](http://www.acareerinmining.ca)) websites. See if there is a career in the mining sector for you.

## Chart Your Path to a Career in the Minerals Industry

### Step 1: What personality are you?

John Holland, a psychology professor at Johns Hopkins University, devoted his professional life to researching issues related to career choice and satisfaction. He found that most people fit into one of six personality types: **artistic, conventional, emotional, enterprising, realistic and social**. Holland's research and hundreds of other studies have found that by choosing careers that match your personality type improves the likelihood that you will enjoy your work. Although we all have traits that appear in more than one list, pick the column in the table below that matches your personality **best**.

Which personality type best matches you? \_\_\_\_\_

<b>Artistic</b>	<b>Conventional</b>
<p>I am original, expressive, independent and creative.</p> <p>I prefer literary, musical or artistic activities. I am not keen on structure and rules. I like to work with IDEAS and THINGS.</p> <p>I value creative expression of ideas, emotions and/or sentiments.</p>	<p>I am structured, accurate, detail-oriented and an organizer. I like rules and regulations.</p> <p>I prefer maintaining orderly routines and standards. I like to work with DATA.</p> <p>I value reputation, material and/or financial accomplishment and power in social, political or business arenas.</p>
<b>Enterprising</b>	<b>Investigative</b>
<p>I am adventurous, a risk taker, persuasive, and a promoter. I take on leadership roles and can sometimes be dominating.</p> <p>I like persuading, manipulating or directing others. I like to work with PEOPLE and DATA.</p> <p>I value reputation, power, money and social status.</p>	<p>I am analytical, Mathematical, a problem solver, scientific, and curious.</p> <p>I like exploring, understanding and predicting natural and social phenomena. I prefer individual rather than people oriented activities. I like to work with DATA.</p> <p>I value the development or acquisition of knowledge.</p>
<b>Realistic</b>	<b>Social</b>
<p>I am mechanically inclined, a hands-on worker, practical, persistent and tool-oriented. I may also like nature or athletics.</p> <p>I like working with THINGS such as machines and tools.</p> <p>I value material rewards for work done.</p>	<p>I am sensitive to needs of others I am helpful, caring, empathetic, nurturing, and supportive.</p> <p>I like to work with PEOPLE in cooperative environments, helping, teaching, treating, counselling or serving others.</p> <p>I value fostering the welfare of others, social service.</p>

## Step 2: What job suits my personality?

Go to the table for the personality type that fits you best. Read through the short description of the **Work Environment/Skills** and the examples of careers both in the minerals industry and other sectors. Pick one career that you find interesting from the minerals industry and write it in the **blank** on page 6.

### Artistic

Work Environment	Minerals Industry Careers	Similar Careers in Other Sectors
Unstructured Allows non-conformity Allows originality Rewards creativity	Audio Visual Equipment Technician Drafting Technologist Graphic Artist / Designer Photographer Technical Publications Editor Web designers/Developers Public Relations Social Psychologist	Advertising Architect Artist /Commercial Artist Designer Musical Director Musician Photographer Writer / Editor
Skills		
Creative Emotionally expressive Good interacting with others		

### Social

Work Environments	Minerals Industry Careers	Similar Careers in Other Sectors
Cooperative Interactive Provides services to others Rewards personal growth in others	Communications Officer Employee Relations Officer Health and Safety Worker Human Resources Manager In-house Trainer Nurse Personnel Officer/Recruiter Public Relations Professional Security Guard Social Worker Translator	Clergy Counselor Home Health Aide Nurses/Nurses Aide Physical Therapist / Assistant Police Officer Social Worker Teacher Librarian
Skills		
Good interpersonal skills. Skills in mentoring, treating, healing or teaching others.		

## Enterprising

Work Environment	Minerals Industry Careers	Similar Careers in Other Sectors
Managerial roles in organizations Business driven Entrepreneurial Rewards monetary gains & achievements	Advertising and Promotion personnel Financial Investor Investment Analyst Lawyer Marketing Representative Public Relations Purchasing Agent Stock broker buyer Food Services Manager Cook/Chef	Banker Financial Analyst Hairdresser Hotel Manager Lawyer Judge Sales Representative Public Relations specialist Real Estate Agent Reporter School Principal Stock Broker Travel Agent TV newscaster
<b>Skills</b>		
Good at persuading and manipulating others		

## Investigative

Work Environment	Minerals Industry Careers	Similar Careers in Other Sectors
Academic atmosphere Uses technical abilities to complete tasks Creative scrutiny of physical, biological or cultural theories Laboratory work	Biologist Chemists and Chemical Engineer Computer Programmer/Analyst Economist Engineers- Electrical, Mining, Mineral Processing, Mechanical, Environmental Scientist Geochemist Geologist Geophysicist Hydrologist Industrial Designer Marketing Analyst Metallurgist Nurse Practitioner Technical Writers	Chemist/Biological Scientist Computer Analyst Draftsperson Emergency Medical Technician Forensic Specialist Medical Lab Technician Physician Assistant Police Detective Technical Writer Veterinarian / Veterinarian Technician
<b>Skills</b>		
Analytically, technically, scientifically and verbally competent.		

## Conventional

Work Environment	Minerals Industry Careers	Similar Careers in Other Sectors
Business-detail Data generated Traditional Rewards conformity & dependability	Accountant Administrative Assistant (Secretary) Data Processing Analyst Economist Mail Clerk Office Clerk Payroll Clerk Purchasing Agent Receptionist Records Management/File Clerk Stores Keeper/Parts Clerk Warehouse Person Tax specialist	Accountant Bank Teller Bookkeeper Cashier Financial Auditor Medical Record Technician Mail Clerk Office Clerk Secretary
<b>Skills</b>		
Good clerical skills, Meets precise standards and performance		



## Realistic

Work Environment	Minerals Industry Careers	Similar Careers in Other Sectors
Hands-on tasks Industrial Outdoors Production-oriented Technical / mechanical jobs Works with machines	Blaster Carpenter/Construction worker Cook Crusher Operator Diamond Driller Electrician Engineer: Electrical, Mechanical Equipment Operator Firefighter Machinist Maintenance Worker Mechanic: Heavy Duty, Truck, Industrial Mechanic Mill Worker/Operator Miner Nurse - Practical Plumber Quality Control Manager Refiner Surveyor Technicians/Technologists: computer, electrical, chemical, environmental, geo-physical, geological, mining , lab, metallurgical Truck drivers Welder	Animal Caretaker Auto Mechanic Carpenter Cook Drywall Installer Electrician Firefighter Mechanic Heating/Air Refrigerator Printing machine operator Safety Inspector Surveyor Water Quality Specialist Welder
<b>Skills</b>		
Good with hands-on equipment, tools and machines.		



