

What Is Industry?

The word industry has many definitions. For our purposes, we will define industry as the actions of **labour** (people who make up a workforce) for the purpose of extracting or creating a product, or performing a service for profit.

Industry may be divided into four categories depending on what is being extracted, created, or provided. The four levels of industry are as follows:

Primary Industry

Primary industries are involved in the extraction of a natural resource or raw material from the environment. The word *primary* means *first* and primary industries are the first step in the industrial process. They extract (take from Earth) resources, but do not make finished products.

Examples include the forestry, fishing, and mining industries.



Secondary Industry

Secondary industries—the second step in the industrial process—are involved in the production of a finished product. These businesses create finished goods or products for sale to consumers. This category includes all manufacturing and construction industries.

Examples include automobile factories, shoe factories, and home-building companies.



Tertiary Industry

Tertiary industries are not related to extracting or making goods, but involve the providing of service. People involved in this level of industry provide a service for which consumers pay.

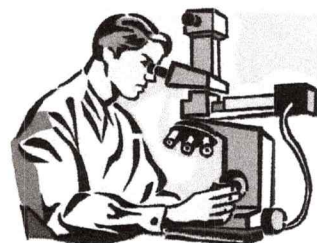
Examples include waiters, doctors, and teachers.



Quaternary Industry

Quaternary-level industries are highly specialized, knowledge-based industries that usually support secondary and tertiary industries. They are involved in research and the development of new ideas and technologies that may cut costs, find new markets, and create new ways of producing goods.

Examples include scientists or employees in a consulting firm.





Learning Activity 4.1

Levels of Industry

1. Using your own words, define and expand upon the definition of the four levels of industry in the chart below.

Primary Industry	
Secondary Industry	
Tertiary Industry	
Quaternary Industry	

2. Below is a list of jobs. Place each job in the column in which you feel it best fits. Examples are provided to help you get started.

Logger	Baker	Teacher
University professor	Truck driver	Biotech researcher
Carpenter	Clerk	Hairdresser
Fisher	Waiter	Plumber
Automotive factory worker	Bank teller	Computer scientist
Market researcher	Accountant	Auto technician
	Miner	
	Farmer	

continued

Learning Activity 4.1: Levels of Industry (continued)

Primary	Secondary	Tertiary	Quaternary
Logger	Baker	Hairdresser	Biotech researcher

Location Factors for Manufacturing

Why are certain industries located in particular areas? Specifically, let's think about Manitoba.

- Why is there a pulp and paper mill in The Pas?
- Why is there a large pork-farming industry in Brandon?
- Why would an aerospace firm locate in Winnipeg?

Location factors are reasons that determine where a company will decide to build its headquarters, plant, or factory. Let's look at these factors.

Location Factors for Industry	
Raw Materials	Manufacturers need reliable sources of raw materials. Some companies (especially primary industries) must be close to the source (e.g., canneries, pulp and paper mills).
Location of Markets	Industries need to consider where their customers are located. The closer companies are to their customers, the cheaper the shipping costs.
Availability of Fresh Water and Power	Most companies need some form of power to operate their businesses (e.g., hydroelectricity, nuclear). Many use water as part of the manufacturing process and, therefore, need to be located near sources of fresh water (e.g., steel mills, oil refineries).
Labour Supply	Industries need workers; some require skilled workers—workers who have university or college educations and can perform specialized jobs in the industry.
Transportation	Manufacturers need ways to ship goods to and from their factories. Things such as highways, ports, railways, airports, and canal systems enable them to do this.
Political Factors	Governments often encourage industries to locate in certain areas by offering them incentives such as tax credits, business loans, grants, and direct investment.
Circumstance	Sometimes, businesses and industries are developed in areas that appear not to follow the normal pattern of location as previously described. This is often due to entrepreneurs and advances in Internet use in reaching markets.

So, let's revisit our previous questions.

- ***Why is there a pulp and paper mill in The Pas?***
 - A primary industry like a pulp and paper mill needs to be near its source of raw materials: trees. The Pas is located in a large forested region.
- ***Why is there a large pork-farming industry in Brandon?***
 - The pork industry requires several things to operate that Brandon can offer: a land base that can grow feed for the hogs; a labour force that can work in a processing plant; workers with experience in the industry; and transportation links such as rail and roads for moving products.
- ***Why would an aerospace firm locate in Winnipeg?***
 - An aerospace firm produces airplanes. Winnipeg is the geographic centre of North America—which makes shipping to other places in North America convenient and economical. Winnipeg has Manitoba's largest airport. Winnipeg is also home to two universities and one college that produce a skilled workforce.

Location of Manufacturing Industry: Pros and Cons

There is no doubt that manufacturing makes a tremendous contribution to an area by providing employment opportunities in both direct and **spin-off jobs**. Direct jobs are those directly associated with the manufacturing company—a person who is an employee of the company. Spin-off jobs are jobs that are created to support an industry, or are created as an indirect result of the industry. Spin-off jobs that support the pulp and paper mill in The Pas include grocery store clerks, car dealers, medical clinic nurses, and many others.

Manufacturing gives a great number of people in an area access to wealth through economic growth. Manufacturing also increases the tax base of communities, which means that local governments can provide a higher quality of public services (like recreation facilities, schools, hospitals, libraries) to its citizens.

Not all aspects of a manufacturing industry locating in a particular area, however, are positive. Along with benefits, there are environmental and social problems, including the following:

- Manufacturing generally uses an enormous amount of the local resource base: this may lead to resource depletion.
- Most manufacturing industries contaminate or pollute the environment in one way or another in their processes. Chemicals, exhaust fumes, heat, and solid and liquid wastes contaminate our air, land, and water.
- **Acid precipitation** is caused by a variety of exhaust gases, chemicals, and minute (tiny) particles emitted from factory smokestacks. In sunlight, sulphur and nitric oxide combine with condensing vapour and produce an acid cloud, which then turns into acid precipitation.
- **Global warming** is the heating of the atmosphere by trapped solar energy and heat from industrial processes.



Manufacturing in North America

You have learned why industries locate where they do. Manufacturing, part of the secondary level of industry, is involved in the making of finished goods. Where does manufacturing take place in North America?

In North America, the manufacturing **heartland** is a relatively small area that includes southern Ontario and southwest Quebec in Canada. In the United States of America, it stretches along the northeast coast from Boston in the north to Washington DC in the south; it extends west inland to the Ohio River Valley; finally, it stretches north to include St. Louis, Missouri, Milwaukee, and Wisconsin.

The industrial heartland in North America is not only the main manufacturing region of the continent, but is also the social, political, and cultural hub of the continent.

Manufacturing in the World

Eighty percent (80%) of the world's manufacturing takes place in three regions: eastern North America, northwestern Europe, and East Asia. These areas of the world were the first to industrialize. The **Industrial Revolution** began in Britain around 1750 and later spread to Western Europe and the United States of America after 1865. Industrialization spread to East Asia, most notably to Japan after 1945.



In recent years, there has been a **globalization of manufacturing**. This means that there has been a shift in the traditional regions of manufacturing—United States of America, Canada, Europe, and Japan—to less developed countries. China in particular has seen great growth. Since 1979, the Pearl River Delta area of China has become a major manufacturing centre for products such as electronics, toys, clothes, textiles, and plastic products, as well as a range of other goods. In 2001, nearly 5% of the world's goods were produced in the Pearl River Delta area.



Another recent trend in world globalization is a move to **transnational manufacturing**. This is a process whereby goods or components are partially created or assembled in one country, and then shipped across national borders for further work. For example, a car with an American brand name may be assembled in Mexico with component parts that are made and pre-assembled in factories in over two dozen countries.