Modern Figure Skating is divided into four categories: single skating events for men and women, pair skating, ice dancing, and synchronized skating. The first Olympics to feature Figure Skating were held in England in 1908.

**Figure Skating**

Figure Skating originated in the mid-1800s, but was quite different from the modern sport. Skaters had to wear various dress-like costumes and the ice rink was often outdoors. The sport became more popular in the late 1800s, with the invention of the skate as we know it today. By the early 1900s, it had found its way to the UK, Europe, and the USA. The sport was added to the Olympic Games in 1920.

**Cutting Edge**

Ice, training, passion, motivation, dedication... skaters need them all to get to the top of their sport. But there’s more. The venues, the equipment... MINING MAKES IT HAPPEN

**Graphite**

**Top Producers:**
- China
- India
- Brazil
- Russia
- Korea, North, Canada

Graphite is a soft, crystalline form of carbon. It is grey to black, has a metallic lustre, and occurs in metamorphic rocks, such as marble, schist, and gneiss. It has both metallic and non-metallic properties. As a metal, it conducts heat and electricity; as a non-metal, it is inert (does not react with other chemical compounds or elements), and provides high heat resistance and excellent lubrication. Major uses of graphite include high-temperature lubricants, brushes for electrical motors, friction materials for brake pads and clutch facings, and crucibles for the melting furnace. Carbon fibre/graphite composites are used to make fishing rods, golf clubs, and archery shafts.

Early writing tools were often made with lead. Today we still call the core of a pencil the “lead,” even though it is made from non-toxic graphite.

**Silica**

**Top Producers:**
- Australia
- China
- Brazil
- India, Guinea

Silica is a naturally occurring compound that is extremely resistant to heat and corrosion. It is a key component in many manufacturing processes, including the production of glass, ceramics, and refractory materials. It is also used as a filler in plastics and rubber products.

**Aluminum**

**Top Producers:**
- Australia
- China
- Brazil
- India

Aluminum is a lightweight, strong, and durable metal that is widely used in many applications, from aerospace to automotive to household products. It is also a key component in the production of many other materials, such as steel and concrete.

**Titanium**

**Top Producers:**
- South Africa
- North America

Titanium is a strong, lightweight, and corrosion-resistant metal that is used in many applications, including aerospace, automotive, and medical devices. It is also used in the production of other materials, such as steel and copper.

**Chromium**

**Top Producers:**
- Russia
- Canada

Chromium is a hard, lustrous, and corrosion-resistant metal that is used in many applications, including stainless steel, chrome plating, and mirror finishes. It is also used in the production of other materials, such as steel and copper.

**Iron**

**Top Producers:**
- China
- Brazil
- Australia
- India
- Russia

Iron is an important metal that is used in many applications, including construction, manufacturing, and transportation. It is also a key component in the production of steel and other materials.

**Sledge Hockey**

Sledge Hockey is a fast-paced, highly physical game invented during the early 1960s in Stockholm, Sweden. Athletes sit in sleds on two regular-sized ice hockey skate blades, that allows the puck to pass underneath them.

The first International Sledge Hockey game took place in 1969 between Swedish and Norwegian teams. In 1981, Great Britain started a team, followed by Canada in 1983, and the U.S.A., Estonia, and Japan in the 1990s. In 1994, Sledge Hockey debuted at the Paralympic Winter Games in Lillehammer. Team Canada won their first gold medal in 2006 at the Games in Torino Italy. Canada, Norway, the U.S.A., Germany, Sweden, and Japan are currently regarded as the top Sledge Hockey nations.

**Neon**

**Top Producers:**
- Russia
- Canada

Nickel is a product of lead-bearing deposits, such as gabbroic, and metabasite ores, is hard but easily shaped. Used primarily to make stainless steel, nickel oxide has excellent plating properties that suit it well to industrial and decorative coatings. Nickel is not a stainless steel skate blades, hockey mask cages, and sledge hockey frames. Alloys containing nickel go into many automotive parts, such as exhaust systems, thermostats, spark plugs, gears, and electronics, components also found in an ice resurfacing machine.

Nuclear-reactor batteries keep you connected—they keep your backpack up, your phone charged, and digital cameras alive when you are on the move.

**Steel**

Steel is an alloy of iron with other metals, such as carbon, nickel, chromium, manganese, and molybdenum, depending on the type of steel needed. Some of the earliest steels date back to 1400 B.C. Today, steel is one of the most common materials in the world and is a major component in many manufactured items, including buildings, tools, automobiles, appliances, and sports equipment.

The steel industry has been actively recycling for more than 100 years. In fact, steel is the most widely recycled material in Canada—it is more economical to recycle steel than to mine ore for new steel. Steel lends itself well to recycling because it does not lose any of its physical properties during the recycling process. The energy saved by recycling steel in Canada each year saves enough energy to power 2.7 million households.

**Sulphur**

Sulphur is a bright yellow to yellowish-brown, brittle, non-metallic element. It is the 16th most abundant element in the known universe and ranks 16th in the Earth's crust. Sulphur is recovered as a by-product of oil refining and natural gas processing and is found in hot liquid form into blocks to cool. It is used in the production of almost everything we eat, wear, or use, including rubber and heat resistant vulcanized rubber.

Known as the “King of Chemicals,” sulphuric acid is the major end use for sulphur. It is such an important industrial raw material that sulphuric acid production has been considered one of the best indexes of a nation’s industrial development.

**ICE HOCKEY**

The origins of the game of Ice Hockey is uncertain. Some say that it originated with centuries-old European stick and puck games of dribbling and slapping the puck on ice—and some say it is based on Aboriginal lacrosse or Huron field games. While evidence suggests that the modern game of hockey was born in Canada, the exact origin of the sport is unknown.

Ice hockey is a fast-paced, highly physical game played on an indoor or outdoor ice rink. The sport is played with two teams of six players each, who use sticks to hit a puck into the opponent's net. The teams take turns controlling the puck, trying to outmaneuver the opposing team and score goals. The game is fast-paced, with players exhibiting speed, agility, and teamwork.

Around the world, there are various versions of ice hockey, each with its own unique rules and traditions. The sport is played at all levels, from local community leagues to professional leagues, and at amateur and professional levels.

In conclusion, ice hockey is a sport that has a rich history and continues to grow in popularity around the world. With its fast-paced action, physicality, and strategic depth, it is a game that requires skill, strategy, and teamwork. Whether you are a seasoned player or a casual spectator, ice hockey offers something for everyone.
Zinc (Zn)

Top Producers:
China, South Africa, U.S., Vietnam

Zinc, a rare element, is the most easily shaped metal known, comes in a variety of heat treatments, and will not tarnish, rust, or corrode. Widely distributed in the Earth’s crust in low concentrations, it is often present as cuprous or cupric minerals. It is commonly found in quartz veins and dikes, as well as in the dolomite and limestone of many sedimentary rocks. Zinc is gained from zinc ores such as the minerals sphalerite and smithsonite, and usually occurs with copper or lead. More than half of the zinc consumed is used for galvanizing, a process where a thin layer of zinc is applied to iron and steel products to prevent rusting. Such products are extensively used in vehicle, bridge, and building construction. Zinc sulphide is used in making luminous dials, X-ray and television screens, paints, and fluorescent lights.

Humans, animals, plants, and even the smallest microorganisms need zinc to function. It is vital for taste and smell, as well as skin cell renewal, and helps keep our hair and nails healthy.

Gold (Au)

Top Producers:
China, South Africa, U.S., Australia

Gold is a rare element, is the most easily shaped metal known, comes in a variety of heat treatments, and will not tarnish, rust, or corrode. Widely distributed in the Earth’s crust in low concentrations, it is often present as cuprous or cupric minerals. It is commonly found in quartz veins and dikes, as well as in the dolomite and limestone of many sedimentary rocks. Zinc is gained from zinc ores such as the minerals sphalerite and smithsonite, and usually occurs with copper or lead. More than half of the zinc consumed is used for galvanizing, a process where a thin layer of zinc is applied to iron and steel products to prevent rusting. Such products are extensively used in vehicle, bridge, and building construction. Zinc sulphide is used in making luminous dials, X-ray and television screens, paints, and fluorescent lights.

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Copper (Cu)

Top Producers:
China, U.S., Peru, China, Australia

Copper, the first metal smelted from ores, is easily shaped and is an excellent heat and electricity conductor. One of the most important copper ore is the mineral chalcocite. Copper has an unusual pinkish lustre, but when exposed to air and water, it oxidizes, developing a blue-green patina. With its high electrical resistance, it is used for copper, wire, and electrical products, for plumbing, heating and ventilation, as well as building wire and sheet metal facing. Copper alloy is used in integrated circuits, computer chips, and printed circuit boards. Copper wire is also used in musical and medical devices like sports, scoreboard cables and electrical vehicles.

Silver (Ag)

Top Producers:
South Africa, Chile

Silver occurs in the Earth as a pure metal and has been used in its pure form since ancient times. Soft, white, and luminous, it is strikingly beautiful and reflects light almost as well as gold. Silver is also used in batteries, brazing and soldering, catalytic converters in internal combustion engines, electronic and circuit boards, electronic components, friction materials, and in many other uses. Silver is also used as a medical treatment for infections, as well as in the production of jewelry and silverware. Silver is also used in dentistry, as well as in the production of jewelry and silverware.

Tin (Sn)

Top Producers:
China, Indonesia, Peru, Bolivia

Tin, derived from the mineral cassiterite, is easily shaped and has a relatively low melting point. Named for the Latin word tinnium, tin is the earliest known metal. The silver-white metal was recognized for its hardness on copper and used to make bronze implements as early as 3000 B.C. It is used in coatings for steel containers, in solder for joining pipes, and on electrical/circuit boards in bearing alloys, in glass-making, and in a wide range of chemical applications.

Lead (Pb)

Top Producers:
China, Australia, U.S., Canada

Lead is a metal found in the mineral galena, is heavy, easily shaped, and very resistant to corrosion. Lead is usually combined with copper to form brass and bronze, and is used to produce lead storage battery, a stable power source in both fast and electric powered vehicles.

Limestone (CaCO3)

Top Producers:
Australia, Japan, Germany

Limestone is a common whitish-sedimentary rock composed primarily of the mineral calcite. The calcite is formed mostly from the remains of corals and marine organisms that accumulated in sea. Limestone is a key building material, either cut into building blocks or in the form of cement, one of the most important construction materials in use. Limestone is also essential in glass-making, including windows, bottles, windowed, and bricklaying.

Zinc (Zn)

Top Producers:
China, Australia, Peru, U.S., Canada

Zinc, the fourth most common metal in use, comes from zinc ores such as the minerals sphalerite and smithsonite, and is usually combined with copper or lead. More than half of the zinc consumed is used for galvanizing, a process in which a thin layer of zinc is applied to iron and steel products to prevent rusting. Such products are extensively used in vehicle, bridge, and building construction. Zinc sulphide is used in making luminous dials, X-ray and television screens, paints, and fluorescent lights.

Human, animals, plants, and even the smallest microorganisms need zinc to function. It is vital for taste and smell, as well as skin cell renewal, and helps keep our hair and nails healthy.

In the Arena... Mining Makes it Happen

The first artificial ice rink, the Glaciarium, was built in 1876 in London, England. Today, state-of-the-art, ecologically friendly building technology and design appear in the Richmond Oval, the 2010 Winter Olympics Speed Skating venue in Richmond, near Vancouver, B.C. The Richmond Oval offers space for two international-speed hockey rinks, or eight full-sized figure skating rinks—though the Speed Skating oval is not in use. The venue was built to seat 8,000 people at the 2010 Winter Olympics.

Describing the building of the Oval, the venue’s Web site lists some impressive statistics. To prepare the construction site, the building contractor’s team of 200 workers labored 170,000 cubic meter hours. The building features a 6-kV arc fold from mountain pine beetle affected timber in 15 minutes. It incorporates 6,000 tons of steel rebar, and it is supported by 2,730 stone columns.

Cleaning Up

As much as skate in itself is the use of an ice resurfacing machine. Kids and adults are fascinated by the work of a dehydration system, where the slush is drawn from the ice by a vacuum pump. The ice is then dried and the water is then recycled and reused. The ice surface is cleaned by the machine’s “conditioning” unit, then rehydrated with clean water spread by a cloth towel.

Built with a steel tube chassis, stainless bolts and agars, an electric or fuel-powered engine, and lead-acid batteries, the Zamboni ice resurfacing machines use many metals and minerals throughout its construction.

Keeping Score

Considered a symbol of Canadian culture, hockey games draw huge crowds to arenas such as General Motors Place. In Vancouver, B.C., host to the 2010 Winter Olympics, GM Place installed a new $5,000,000 Datron Predictor LED scoreboard. Measuring 4.1 by 7.3 m and weighing 22,000 kg, the scoreboard incorporates four of the largest video displays in the NHL. Their size, combined with their 10 mm pixel spacing, gives the displays an image that is unscaled in any NHL stadium. Each display typically uses red, blue, and green light-emitting diodes (LED), which combine to form one pixel of a video image.