

CHAPTER 07

A list of bullet points with important information is given to help you learn the subject matter of this chapter.

- 1.- The principal metal for which the nodules on the deep sea floor will likely be exploited is manganese.
- 2.- The world's largest potential reserves of manganese are in deep sea nodules.
- 3.- The Hall-Heroult and Bayer processes have evolved into the primary means of producing aluminum.
- 4.- The principal producer of metallic silicon today is China.
- 5.- The U.S. currently imports approximately 30% of its iron ore because the foreign ones are often cheaper than American ores.
- 6.- A major concern that might limit the use of aluminum is the large amounts of energy needed to refine it.
- 7.- Iron is the most used metal of the modern day because it is: (1) cheap; (2) the most abundant readily available metal; and (3) easily fabricated for many types of uses.
- 8.- The primary use of platinum today is as white paint pigment.
- 9.- Magnetite and hematite are the primary mineral sources of iron.
- 10.- The semiconductor "chips" used in modern computers and solar cells are prepared primarily from silicon.
- 11.- The only natural known occurrence of native silicon on the crust of the Earth is the result of a lightning strike.
- 12.- The dominant metal used in the world today is iron.
- 13.- The most abundant of the "abundant metals" in the Earth's crust is silicon.
- 14.- Bauxite is the primary ore of aluminum.
- 15.- The abundant metal that may be extracted from dolomite is magnesium.
- 16.- The abundant metal that is commonly extracted from brines is magnesium.
- 17.- Bauxite generally forms as a result of intense leaching of tropical soils.
- 18.- The principal sources of iron being mined today are banded iron formations.
- 19.- Banded iron formations are all believed to have formed during the portion of geologic history known as Precambrian.
- 20.- The source of the first metallic iron used by humankind is believed to have been meteorites.
- 21.- The principal difference between the world in Precambrian time and today that allowed great iron deposits to form then is that the Precambrian atmosphere contained no oxygen.
- 22.- The world's largest reserves of bauxite occur in Australia.
- 23.- The first iron ores used in Colonial America were from bog iron deposits.
- 24.- The primary use for magnesium metal is as an alloy with aluminum.
- 25.- The metal recycled in greatest quantity today is iron.
- 26.- The recycling of aluminum: (1) has been rapidly increasing; (2) is now second only in mass to iron; (3) saves 95% of the energy required to make a new can from bauxite.
- 27.- The ferro-alloy metals mined principally from layers in stratified mafic igneous rocks are chromium, vanadium and nickel.
- 28.- There is no metal likely to supercede iron in usage in the next 25 years.
- 29.- Aluminum recycling: (1) conserves bauxite reserves; and (2) saves large quantities of energy.
- 30.- Modern white paint and most white plastics have titanium incorporated into them as their coloring agent.
- 31.- The bauxites that serve as major sources of aluminum have formed as the result of intense leaching of tropical soils.