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Types of Elements

The periodic table is broadly divided into two main sections: meta and nonmetals. As you can see in Figure 1-12, the metals are at the le and in the center of the table. The nonmetals are toward the right. Th elements along the dividing line show characteristics of both meta and nonmetals.

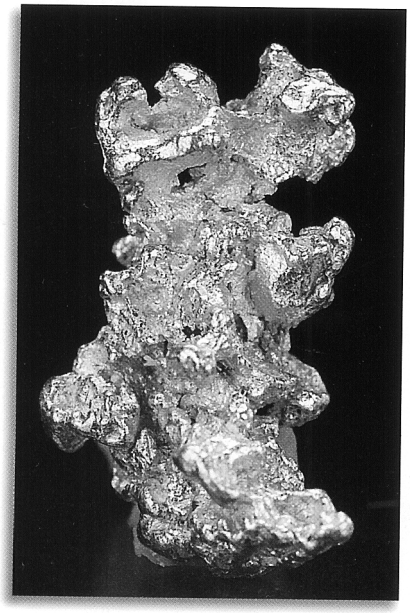
Metals

Some of the properties of metals may be familiar to you. For exampl you can recognize metals by their shininess, or metallic luster. Perhap the most important characteristic property of metals is the ease wit which they conduct heat and electricity. Thus, *a* **metal** *is an element tha is a good conductor of heat and electricity.*

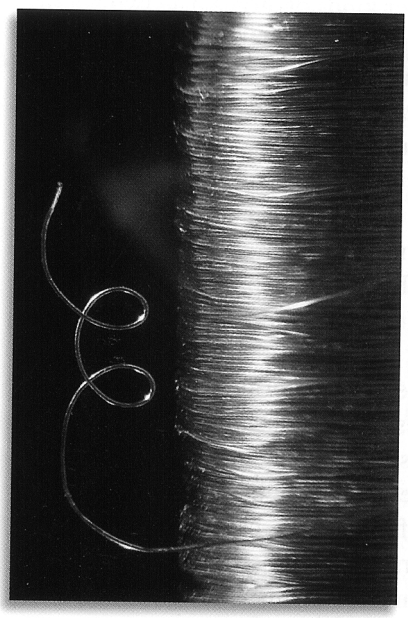
At room temperature, most metals are solids. Most metals also hav the property of *malleability,* that is, they can be hammered or rolled int thin sheets. Metals also tend to be *ductile,* which means that they can b drawn into a fine wire. Metals behave this way because they have hig *tensile strength,* the ability to resist breaking when pulled.

Although all metals conduct electricity well, metals also have ver diverse properties. Mercury is a liquid at room temperature, wherea tungsten has the highest melting point of any element. The metals i Group 1 are so soft that they can be cut with a knife, yet others, lik chromium, are very hard. Some metals, such as manganese and bismuth are very brittle, yet others, such as iron and copper, are very malleabl and ductile. Most metals have a silvery or grayish white *luster.* Tw exceptions are gold and copper, which are yellow and reddish brown respectively. Figure 1-13 shows examples of metals.

FIGURE 1-13 (a) Gold has a low reactivity, which is why it may be found in nature in relatively pure form. (b) Copper is used in wiring because it is ductile and is an excellent conductor of electricity. (c) Aluminum is malleable. It can be rolled into foil that is used for wrapping food.



(a)



(b)

(c)