* 1. Select one or more of the following modern items or devices and conduct an Internet search in order to determine what specific material(s) is (are) used and what specific properties this (these) material(s) possess(es) in order for the device/item to function properly. Finally, write a short essay in which you report your findings.

Cell phone/digital camera batteries

Cell phone displays

Solar cells

Wind turbine blades

Fuel cells

Automobile engine blocks (other than cast iron)

Automobile bodies (other than steel alloys)

Space telescope mirrors

Military body armor

Sports equipment

1.2

List three items (in addition to those shown in Figure 1.9) made from metals or their alloys. For each item, note the specific metal or alloy used and at least one characteristic that makes it the material of choice.

1.3

List three items (in addition to those shown in Figure 1.10) made from ceramic materials. For each item, note the specific ceramic used and at least one characteristic that makes it the material of choice.

1.4

List three items (in addition to those shown in Figure 1.11) made from polymeric materials. For each item, note the specific polymer used and at least one characteristic that makes it the material of choice.

1.5

Classify each of the following materials as to whether it is a metal, ceramic, or polymer. Justify each choice: (a) brass; (b) magnesium oxide (MgO); (c) Plexiglas; (d) polychloroprene; (e) boron car-bide(B4C); and (f) cast iron.