

3. International System of Units (SI)

See “The International System of Units (SI),” NIST Special Publication **330**, B.N. Taylor, ed. (USGPO, Washington, DC, 1991); and “Guide for the Use of the International System of Units (SI),” NIST Special Publication **811**, 1995 edition, B.N. Taylor (USGPO, Washington, DC, 1995).

SI prefixes

| | | |
|------------|-------|-----------|
| 10^{24} | yotta | (Y) |
| 10^{21} | zetta | (Z) |
| 10^{18} | exa | (E) |
| 10^{15} | peta | (P) |
| 10^{12} | tera | (T) |
| 10^9 | giga | (G) |
| 10^6 | mega | (M) |
| 10^3 | kilo | (k) |
| 10^2 | hecto | (h) |
| 10 | deca | (da) |
| 10^{-1} | deci | (d) |
| 10^{-2} | centi | (c) |
| 10^{-3} | milli | (m) |
| 10^{-6} | micro | (μ) |
| 10^{-9} | nano | (n) |
| 10^{-12} | pico | (p) |
| 10^{-15} | femto | (f) |
| 10^{-18} | atto | (a) |
| 10^{-21} | zepto | (z) |
| 10^{-24} | yocto | (y) |

2 3. International system of units (SI)

| Physical quantity | Name of unit | Symbol |
|---|----------------|--------------------|
| <i>Base units</i> | | |
| length | meter | m |
| mass | kilogram | kg |
| time | second | s |
| electric current | ampere | A |
| thermodynamic temperature | kelvin | K |
| amount of substance | mole | mol |
| luminous intensity | candela | cd |
| <i>Derived units with special names</i> | | |
| plane angle | radian | rad |
| solid angle | steradian | sr |
| frequency | hertz | Hz |
| energy | joule | J |
| force | newton | N |
| pressure | pascal | Pa |
| power | watt | W |
| electric charge | coulomb | C |
| electric potential | volt | V |
| electric resistance | ohm | Ω |
| electric conductance | siemens | S |
| electric capacitance | farad | F |
| magnetic flux | weber | Wb |
| inductance | henry | H |
| magnetic flux density | tesla | T |
| luminous flux | lumen | lm |
| illuminance | lux | lx |
| celsius temperature | degree celsius | $^{\circ}\text{C}$ |
| activity (of a radioactive source)* | becquerel | Bq |
| absorbed dose (of ionizing radiation)* | gray | Gy |
| dose equivalent* | sievert | Sv |

*See our section 37, on “Radioactivity and radiation protection.”