

Review chapter 1

Units Conversion

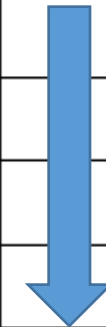
1. Prefix \rightarrow Base Unit (e.g. km \rightarrow m)
2. Base Unit \rightarrow Prefix (e.g. m \rightarrow km)
3. Prefix \rightarrow Prefix (e.g. km \rightarrow nm)

Review ch1

Prefix	Symbol	Meaning	Example
tera-	T	1,000,000,000,000 or 10^{12}	1 terameter (Tm) = 1×10^{12} m
giga-	G	1,000,000,000 or 10^9	1 gigameter (Gm) = 1×10^9 m
mega-	M	1,000,000 or 10^6	1 megameter (Mm) = 1×10^6 m
kilo-	K	1,000 or 10^3	1 kilometer (km) = 1×10^3 m
hecto	h	100 or 10^2	1 hectometer (hm) = 1×10^2 m
deca-	da	10 or 10^1	1 decameter (dam) = 1×10^1 m
deci-	d	$1/10$ or 10^{-1}	1 decimeter (dm) = 1×10^{-1} m
centi-	c	$1/100$ or 10^{-2}	1 centimeter (cm) = 1×10^{-2} m
milli-	m	$1/1,000$ or 10^{-3}	1 millimeter (mm) = 1×10^{-3} m
micro-	μ	$1/1,000,000$ or 10^{-6}	1 micrometer (μm) = 1×10^{-6} m
nano-	n	$1/1,000,000,000$ or 10^{-9}	1 nanometer (nm) = 1×10^{-9} m
pico-	p	$1/1,000,000,000,000$ or 10^{-12}	1 picometer (pm) = 1×10^{-12} m



1m



Units Conversion

1. Prefix → Base Unit

e.g. 6km → ? m

6×10^3 m (km is 10^3 m from the table of prefixes)

2. Base Unit → Prefix

e.g. 6m → ? km

6×10^{-3} km (m is 10^{-3} km (reverse the power sign from the table of prefixes))

3. Prefix → Prefix

e.g. 6 km → ? nm

$6 \times 10^{3 - (-9)}$ nm = 6×10^{12} nm (km is 10^3 m, put negative sign, the nm is 10^{-9} m)

Review ch1

1- Which of the following is a compound?

- a. Helium b. Pure water c. Sand d. Soup

2- Which of the following is a homogeneous mixture?

- a. Hydrogen b. Salt c. Tea with sugar d. Wet sand

3- Which of the following is a Crystalline solid?

- a. Table salt b. Nitrogen c. Gasoline d. Glass

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4-Which of the following is an amorphous solid?

a- Water

b- Helium

c- Diamond

d- Plastic

5-Which of the following is a liquid at room temperature?

a- Gasoline

b- Hydrogen

c- Diamond

d- Sodium

6- Rusting of iron is considered as ----- .

a- Physical change

b- Chemical change

c- Physical property

d- Chemical Property

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7- Tendency of iron to rust is a ----- .

- a- Physical change b- Chemical change c- Physical property d- Chemical Property

8- The evaporation of rubbing alcohol is a ----- .

- a- Physical change b- Chemical change c- Physical property d- Chemical Property

9- The burning of lamp oil is a ----- .

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10- The bleaching of hair with hydrogen peroxide is a ----- .

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11- The ability of lamp oil to burn is a ----- .

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12- The temperature at which water freezes is a ----- .

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13- The forming of frost is a ----- .

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14- Which of the following is a SI-base Unit?

- a- Gram b- Second c- Fahrenheit d- Micrometer

15- Which of the following is a SI-base Unit?

- a- Mole b- Nanosecond c- Fahrenheit d- Micrometer

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15- Which of the following is a SI-base Unit?

- a- **Mole** b- Nanosecond c- Fahrenheit d- Micrometer

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16- Which of the following is a SI-base Unit?

a- Kilogram

b- Kiloampere

c- Kilosecond

d- Kilometer

17- Water freezes at ----- .

a- 273.15 °C

b- 73.15 K

c- 32 °F

d- 0 K

18- The temperature of 40 °C equals ----- .

a- 104 °F

b- 22 °F

c- 50 °F

d- 30 °F

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19- The temperature of $-273.15\text{ }^{\circ}\text{C}$ equals ----- .

a- 0 K

b- 273.15 K

c- 50 K

d- 90 K

20- The density of an object has 22.5 g and 2.38 cm^3 is ----- .

a- 0.45 g/cm^3

b- 9.45 g/cm^3

c- 9.45 g/m^3

d- 9.00 g/cm^3

21- Convert 1245 kg into mg.

a- $1.245 \times 10^5\text{ mg}$

b- $11.2 \times 10^9\text{ mg}$

c- 9.245 mg

d- $1.245 \times 10^9\text{ mg}$

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22- Convert 515 km into dm.

a- 5.15 dm

b- 5.15×10^4 dm

c- 5.15×10^6 dm

d- 515×10^6 dm

23- What is the mass of a liquid has 417 mL volume and 1.11 g/cm^3 density?

a- 462.87 g

b- 62.87 g

c- 50 g

d- 100 g

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