

Practice with units and prefixes

Education in Chemistry

September 2019

rsc.li/2KkvM9n

The following problems require students to practise converting and comparing measurements that have been made in different units.

1. Circle or highlight which is heavier.
 - a. 1400 g or 12 kg
 - b. 15,000 g or 16 kg
 - c. 8000 mg or 80 g
 - d. 500 mg or 0.05 g
 - e. 999 mg or 1g
 - f. 0.03 kg or 3000 mg

2. Circle or highlight which has a higher concentration.
 - a. 2 g/dm³ or 1000 mg/dm³
 - b. 0.03 g/dm³ or 3.3 mg/dm³
 - c. 522 g/dm³ or 4.1 kg/dm³
 - d. 1350 g/dm³ or 14 kg/dm³
 - e. 1000 g/dm³ or 1000 g/cm³
 - f. 10 mg/cm³ or 12 g/dm³

3. Insert the appropriate symbol from <, <<, >>, >, =, ~

1000 μm		100 nm
1000 μm		1 nm
34.7 nm		0.035 μm
23 nm		5899 mm
0.087 km		86 m
0.11 μm		110 mm

Answers:

1. Circle or highlight which is heavier.
 - a. 1400 g or **12 kg**
 - b. 15,000 g or **16 kg**
 - c. 8000 mg or **80 g**
 - d. **500 mg** or 0.05 g
 - e. 999 mg or **1g**
 - f. **0.03 kg** or 3000 mg

2. Circle or highlight which has a higher concentration.
 - a. **2 g/dm³** or 1000 mg/dm³
 - b. **0.03 g/dm³** or 3.3 mg/dm³
 - c. 522 g/dm³ or **4.1 kg/dm³**
 - d. 1350 g/dm³ or **14 kg/dm³**
 - e. 1000 g/dm³ or **1000 g/cm³**
 - f. 10 mg/cm³ or **12 g/dm³**

3. Insert the appropriate symbol from <, <<, >>, >, =, ~

1000 μm	>>	100 nm
1000 μm	=	1 nm
34.7 nm	~ or <	0.035 μm
23 nm	<<	5899 mm
0.087 km	~ or >	86 m
0.11 μm	=	110 mm