# Practice with units and prefixes

***Education in Chemistry***September 2019  
[rsc.li/2KkvM9n](https://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.
   1. 1400 g or 12 kg
   2. 15,000 g or 16 kg
   3. 8000 mg or 80 g
   4. 500 mg or 0.05 g
   5. 999 mg or 1g
   6. 0.03 kg or 3000 mg
2. Circle or highlight which has a higher concentration.
   1. 2 g/dm3 or 1000 mg/dm3
   2. 0.03 g/dm3 or 3.3 mg/dm3
   3. 522 g/dm3 or 4.1 kg/dm3
   4. 1350 g/dm3 or 14 kg/dm3
   5. 1000 g/dm3 or 1000 g/cm3
   6. 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.
   1. 1400 g or 12 kg
   2. 15,000 g or 16 kg
   3. 8000 mg or 80 g
   4. 500 mg or 0.05 g
   5. 999 mg or 1g
   6. 0.03 kg or 3000 mg
2. Circle or highlight which has a higher concentration.
   1. 2 g/dm3 or 1000 mg/dm3
   2. 0.03 g/dm3 or 3.3 mg/dm3
   3. 522 g/dm3 or 4.1 kg/dm3
   4. 1350 g/dm3 or 14 kg/dm3
   5. 1000 g/dm3 or 1000 g/cm3
   6. 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 |