

Unless otherwise specified, each question is worth 4 points.

Note that there is a Periodic Table of the Elements and some other possibly helpful information on the last page of this quiz.

1. Convert room temperature, 21.5°C to Kelvins. (2 points; it doesn't get any easier than this!)

$$21.5 + 273.15 = 294.65$$

$$\boxed{294.7 \text{ K}}$$

2. What is the density of a wooden block with a mass of 612.567 g and the following dimensions: 11.2cm x 8.5cm x 19.5cm? ← (2 s.f.)

$$D = \frac{M}{V} = \frac{612.567 \text{ g}}{11.2 \times 8.5 \times 19.5 \text{ cm}^3}$$

$$= \boxed{0.33 \text{ g/cm}^3}$$

3. Why is a mixture of water and carbon not the same as the compound "sugar" which can be broken down chemically into water and carbon?

(1) COMPOUND = FIXED COMPOSITION

(2) IN COMPOUND, ALL PARTICLES
ARE CHEMICALLY BOUND

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4. Complete the following table: ($\frac{1}{2}$ point each)

symbol	No. of protons	No. of neutrons	No. of electrons
${}^7\text{Li}^{+1}$	3	4	2
${}^{14}\text{N}$	7	7	7
${}^{20}\text{F}^{-1}$	9	11	10

5. Match each of the following with the best description: (1 point each)

- a. N^{3-} anion atom cation molecule
- b. N_2O anion atom cation molecule
- c. Ni anion atom cation molecule
- d. Ni^{2+} anion atom cation molecule

6. What is "special" about elements that are in the same column (or group) on the periodic table of the elements? (3 points)

SIMILAR CHEMICAL PROPERTIES