

The Whitby High School

BTEC Applied Science

SUMMER EXTENSION TASK

CHEMISTRY

Deduce the number of protons, neutrons and electrons in the following species:

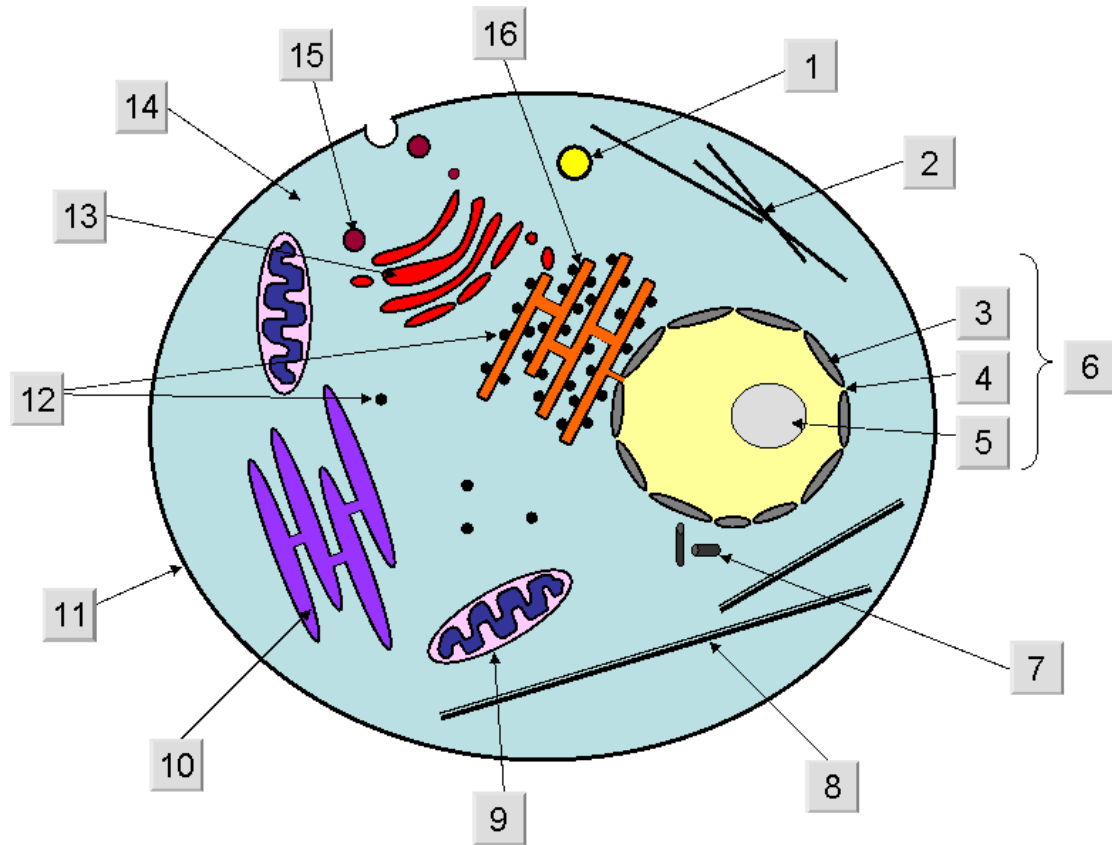
1. ${}^1_1\text{H}$
2. ${}^{17}_8\text{O}$
3. ${}^4_2\text{He}^{2+}$
4. ${}^{132}_{54}\text{Xe}$
5. ${}^{27}_{13}\text{Al}^{3+}$
6. ${}^{235}_{92}\text{U}$
7. ${}^1_1\text{H}^+$
8. ${}^{45}_{21}\text{Sc}^{3+}$
9. ${}^{37}_{17}\text{Cl}^-$
10. ${}^{14}_6\text{C}$

Use the periodic table to write symbols for the following species:

11. 19 protons, 20 neutrons, 18 electrons
12. 8 protons, 8 neutrons, 10 electrons
13. 1 proton, 2 neutrons, 1 electron
14. 82 protons, 126 neutrons, 80 electrons
15. 53 protons, 74 neutrons, 54 electrons

BIOLOGY

Identify parts of the animal cell:



1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____

16. _____

PHYSICS

Waves: Draw a transverse wave and label the crest, trough, amplitude and wavelength.
Draw a longitudinal wave and label the area of compression, area of rarefaction and wavelength. Write the definitions of frequency, displacement and wavelength of a wave.