

AQA, OCR, Edexcel

GCSE Science

GCSE Chemistry

The Structure of an Atom Questions

Includes:

Relative electrical charges of subatomic particles

Size and mass of atoms

Relative atomic mass

Electronic Structure



Total Marks: /46

Relative electrical charges of subatomic particles

Q1: What are the relative charges of the particles in the atom?

Proton: _____

Neutron: _____

Electron: _____

(3 marks)

Q2: If there are 6 protons in the nucleus of an atom, how many electrons are in the atom?

(1 mark)

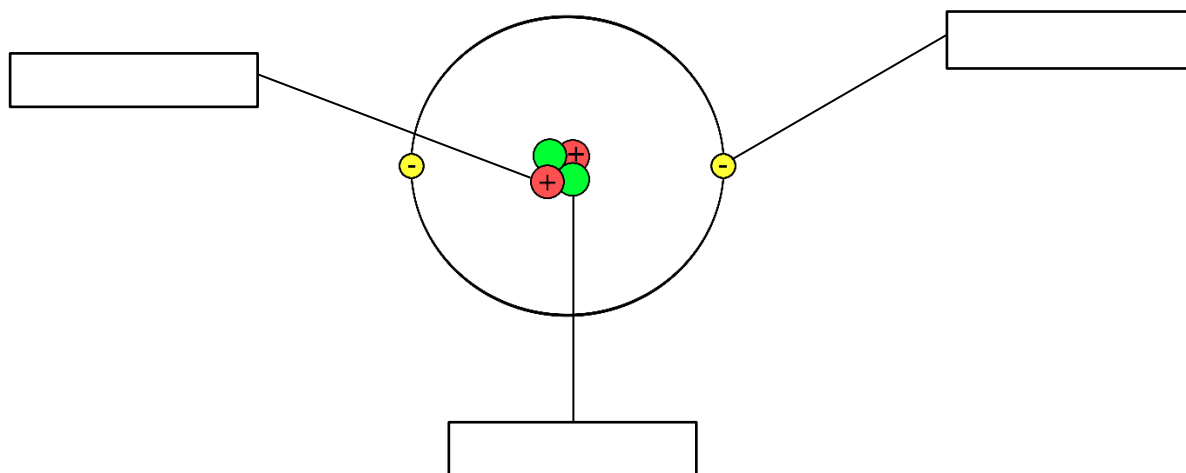
Q3: Magnesium's atomic number is 12. How many protons and electrons does it have?

Protons: _____

Electrons: _____

(2 marks)

Q4: Label the diagram.



(3 marks)

Size and mass of atoms

Q5: Where is almost all the mass in an atom?

(1 mark)

Q6: Fill in this table for the relative masses of parts of the atom.

Name of particle	Relative mass
Proton	
Neutron	
Electron	

(3 marks)

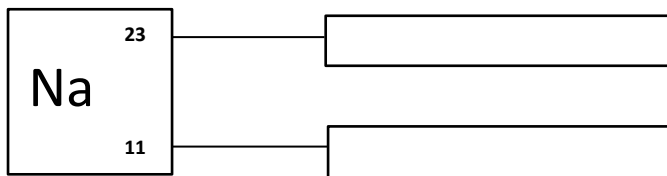
Q7: What is an atom's mass number?

_____ (1 mark)

Q8: Define what is meant by the term isotope.

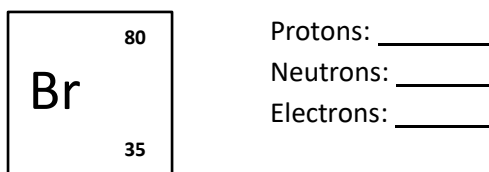
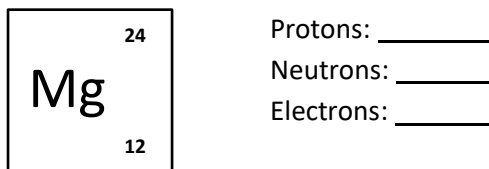
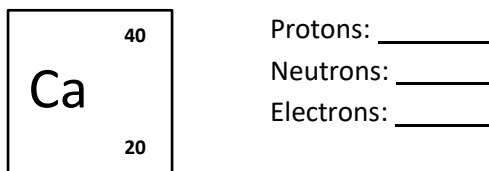
_____ (2 marks)

Q9: Label the diagram for what each number represents in the periodic table.



(2 marks)

Q10: For the following elements. State the number of protons, electrons and neutrons.



(9 marks)

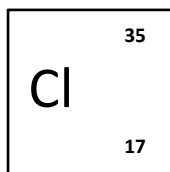
Relative atomic mass

Q11: Define *relative atomic mass*.

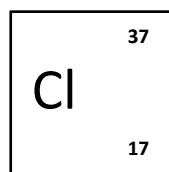
(3 marks)

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Q12: Chlorine is present as two isotopes. Calculate its *relative atomic mass*, with the following information. You must show your working.



76% of chlorine.



24% of chlorine.

$$\text{Relative atomic mass} = \frac{\text{total mass of atoms}}{\text{total number of atoms}}$$

(4 marks)

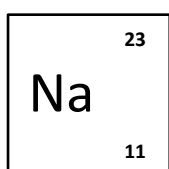
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Electronic Structure

Q13: Explain how electrons arrange themselves in an atom?

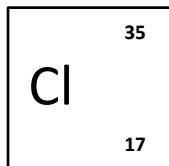
(3 marks)

Q14: For the following elements, state the number of electrons. Then, draw a diagram to represent the arrangement of electrons.



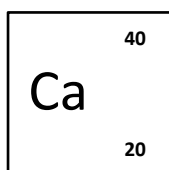
Number of electrons: _____

(3 marks)



Number of electrons: _____

(3 marks)



Number of electrons: _____

(3 marks)