Identifying the Fill in a Model Sign Tube

Scoring guide · one credit per question · review written work against each rubric

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Question 1

Choice (2)

P has 10 electrons and Q has 18. In a neutral atom the electron count equals the proton count, identifying neon and argon.

Question 2

The average mass of an argon atom is about 40 u while that of a neon atom is about 20 u. With equal atom counts the total mass is about twice as large for Q.

Question 3

The numbers of occupied shells place them in different periods. Both have eight electrons in their outer occupied shell and belong to the noble gas group.

Question 4

Q can produce the ion. Neutral argon in Q has 18 protons and 18 electrons. Losing one electron leaves 17 electrons and 18 protons. The proton count identifies argon. Chlorine has 17 protons.