

Name: ----- Date: -----

ELECTRONS IN ATOMS WORKSHEET

Circle the correct option.

1. A _____ is the energy lost or gained by an electron.

- (a) valence electron
- (b) quantum
- (c) Planck's constant

2. According to Planck's theory, for a given frequency(ν), matter can absorb or emit energy only in

- (a) hertz and its units
- (b) $h\nu$ (and any of its whole number multiples)
- (c) $h\nu$ (and any of its multiples in fractions)
- (d) All atoms of the same element have the same number of protons

3. The phenomenon in which electrons are emitted from a metal surface when light of a certain frequency hits it is called

- (a) photoelectric effect
- (b) Planck's effect
- (c) quantum effect

4. How would you calculate the energy of a photon?

- (a) $E_{\text{photon}} = h\nu \times \text{Planck's constant}$
- (b) $E_{\text{photon}} = h\nu$
- (c) $E_{\text{photon}} = \frac{1}{2} h\nu$

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Answers

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