

Physical Science Hard Facts

Physical Science · Answer Key · 10 Questions

1. In what year did Ernest Rutherford publish his discovery of the atomic nucleus based on the gold foil experiment?

- A) 1909
- B) 1911**
- C) 1913
- D) 1919

2. What is the precise value of the speed of light in a vacuum as defined by the SI system in meters per second?

- A) 299,792,458**
- B) 299,792,456
- C) 300,000,000
- D) 299,794,580

3. Which scientist is credited with the 1869 publication of the first widely recognized periodic table of elements?

- A) John Newlands
- B) Julius Lothar Meyer
- C) Dmitri Mendeleev**
- D) Henry Moseley

4. What is the atomic number of the element Darmstadtium, which was first synthesized in 1994?

- A) 108
- B) 110**
- C) 112
- D) 114

5. In 1900, Max Planck introduced the constant h to solve the ultraviolet catastrophe; what is its approximate value in Joule-seconds?

- A) 6.626×10^{-34}**
- B) 1.381×10^{-23}
- C) 8.854×10^{-12}
- D) 1.602×10^{-19}

6. How many elements were officially recognized as having stable isotopes when the first standard atomic weight table was published by the IUPAC?

A) 72

B) 80

C) 84

D) 92

7. Who was the first person to measure the gravitational constant G with significant accuracy in 1798?

A) Isaac Newton

B) Henry Cavendish

C) Charles-Augustin de Coulomb

D) Pierre-Simon Laplace

8. What is the triple point temperature of water on the Kelvin scale, as defined by the ITS-90 standard?

A) 273.15 K

B) 273.16 K

C) 273.17 K

D) 273.18 K

9. In 1932, James Chadwick discovered which subatomic particle by bombarding beryllium with alpha particles?

A) Positron

B) Neutron

C) Muon

D) Neutrino

10. What is the exact number of atoms in one mole of a substance, known as the Avogadro constant, defined since 2019?

A) 6.022×10^{23}

B) $6.02214076 \times 10^{23}$

C) $6.02214179 \times 10^{23}$

D) 6.023×10^{23}