A level physics

Particles interactive quiz

15 questions

Start

1. Fundamental subatomic particles can be divided into two groups:

Hadrons & mesons

Mesons & baryons

Baryons & leptons

Leptons & hadrons

Try again

✓

2. Leptons include:

Electrons, muons, neutrinos

Electrons, quarks, mesons

Neutrinos, protons, pions

Muons, neutrinos, mesons

Try again

3. Which of these is **not** a baryon?

Proton

Neutron

Kaon

Try again

4. Up, down, strange charm are all types of:

Lepton

Quark

Neutrino

Boson

Try again

5. The electromagnetic force is carried by:

W bosons

Z bosons

Virtual photons

Gluons

Try again

6. The weak nuclear force is carried by:

W bosons

Higgs bosons

Virtual photons

Gravitons

Try again

✓

7. In β^- decay,

$n \rightarrow p + e^- + \nu$

$n \rightarrow p + e^+ + \text{antineutrino}$

$n \rightarrow p + e^+ + \nu$

$n \rightarrow p + e^- + \text{antineutrino}$

Try again

✓

8. The charges on up & down quarks are:

u = -2/3 d = +1/3

u = +2/3 d = - 1/3

u = -1/3 d = +2/3

u = +1/3 d = +2/3

Try again

9. Which of these are conserved in all interactions?

Charge, strangeness, baryon number

Baryon number, strangeness, lepton number

Strangeness, lepton number, baryon number

Lepton number, baryon number, charge

Try again

10. Wave-particle duality: which of these demonstrates the wavelike nature of light?

Reflection

Diffraction

Refraction

Momentum of photons

Try again

11. Which of these is a correct version of the de Broglie equation for wave-particle duality?

$\lambda = h/p$

$f = h/p$

$h = \lambda/p$

$h = f/p$

Try again

12. The photoelectric effect shows that we can consider light as being

a wave

particles

electromagnetic radiation

charged particles

Try again

✓

13. The work function of a material is the energy needed to

ionise its atoms.

cause the electrons to emit a line spectrum.

equal the energy of an incoming photon.

cause an electron to escape from the material.

Try again

14. A proton has

baryon number = 1
lepton number = 0

baryon number = 1,
lepton number = 1

baryon number = 0
lepton number = 1

baryon number = 0
lepton number = 0

Try again

15. What is the correct quark configuration for a proton and a neutron?

p = udd n = udd

p = udd n = uud

p = uud n = uud

p = uud n = udd

Try again

Finished!

Back to start