عرض المعلومات المساعدة عرض التغذية الراجعة عرض جميع الأسئلة

السؤال 1

Select the correct answers.

Which measurements can a standing wave's orbit have around a nucleus and still exist without collapsing?

- [ ] 3.5 wavelengths
- [x] 7 wavelengths
- [x] 1 wavelength
- [ ] 11.1 wavelengths
- [ ] 0.1 wavelengths
- [ ] 6.25 wavelengths

السؤال 2

Drag and drop the correct terms.

A standing wave can only exist when the orbit ✓ path around the nucleus ✓ accommodates a certain number of wavelength ✓ (s).

frequency | radiation | electron

السؤال 3

Drag and drop the correct terms.

Louis de Broglie rearranged existing equations to relate the wavelength ✓ of a particle to its mass ✓.

magnetism | intensity | speed | frequency

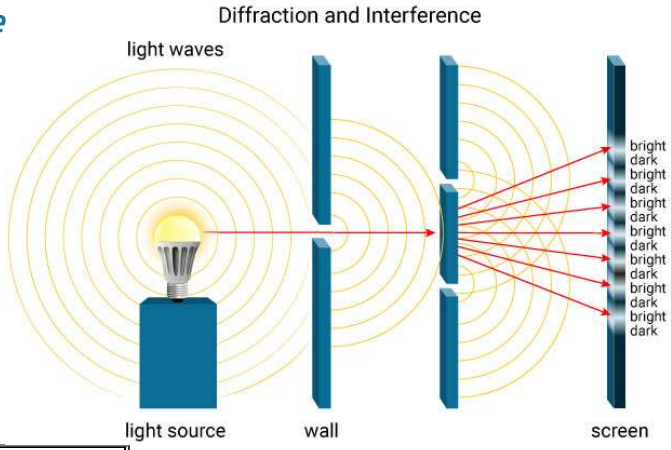
السؤال 4

Select the correct answer from the drop-down menu.

According to Louis de Broglie, light behaved as both a wave and a particle ✓ .

السؤال 5

Fill in the blank with the correct term from the Word Bank.



Word bank			
particle	energy	wave	solid

The double-slit diffraction experiment shows that light undergoes diffraction and interference.

In this experiment, light behaves as a wave ✓ .

السؤال 6

Select the correct answer from the drop-down menu.

The photoelectric ✓ effect shows that electrons are ejected when light with a specific frequency shines on a metal surface.

السؤال 7

Fill in the blank with the BEST term from the Word Bank.

Word Bank			
decimal	negative	positive	integer

If a standing wave matches up perfectly, the number of wavelengths in its orbit path will always be a(n) integer ✓ number.

السؤال 8

Select your answer from the drop-down menu.

The orbit path around the nucleus can only accommodate a whole number of wavelengths.

This means that orbit paths have fixed ✓ radii.

السؤال 9

Select the correct answers.

Which variables are used to determine the wavelength of a moving particle in De Broglie's equation?

- [ ] frequency
- [ ] radius
- [ ] speed
- [ ] acceleration
- [x] mass
- [x] velocity

السؤال 10

Select the correct answer.

In the De Broglie equation, which constant is divided by the product of a particle's mass and velocity to find its wavelength?

$$\lambda = \frac{h}{mv}$$

- [ ] the speed of light
- [ ] the Bohr radius

Planck's constant ✓

electron mass

السؤال 11

Select the correct answer.

Select the statement that describes Louis de Broglie's key discovery.



The probability of finding an electron is higher where the wave function is higher.

An object cannot be measured, or interacted with, without disturbing it.

All types of waves, including light waves, can be treated as particles.

All moving particles, including electrons, can be treated as waves. ✓