

Explanation:

Consider a spherical wavefront produced by a point source of light. According to Huygens' principle, every point on the wavefront [Some points are indicated by dots (●) in the diagram] behave as the source of new wave-front and travel with speed of light (c) in forward direction. After time t , these points spread out spherically (of radii ct). The forward tangential envelope over these sphere gives secondary wave-front.

[Note that, there is no backward transmission of energy and hence no backward wave-front.]

- Which of the following phenomenon cannot be explained by the Huygens wave theory
 - Refraction
 - Reflection
 - polarization
 - interference
- The locus of all particles vibrating in same phase is called
 - wave let
 - wave front
 - vibration
 - Huygens' particle
- Which of the following parameter of light does not change on refraction
 - Velocity
 - wavelength
 - frequency
 - amplitude
- Wave nature of light supports best supports
 - Rectilinear light
 - Reflection of light
 - Interference
 - Photoelectric effect
- If light travels from one medium to another, its velocity changes. This change is due to change in
 - Frequency
 - Wavelength
 - Mass
 - Huygens' Particle
- Which of the following parameter of light does not change on refraction
 - Velocity
 - Frequency
 - Wavelength
 - All of above
- Which of the following principle cannot be explained by wave theory of light
 - Refraction
 - Reflection
 - polarization
 - Photoelectric effect

APPLICATION OF HUYGENS' PRINCIPLE:

1. Verification of law reflection of light:

The laws of reflection of light are:

- The incident ray, reflected ray and normal line all lie at same point in a same plane.
- The angle of incidence is equal to the angle of reflection.

