Transverse waves

Questions

1. What is the direction of movement of particles?
2. What is the direction of propagation of the wave?
3. What is the direction of oscillation of the particles when compared to the direction of propagation of the wave?
4. What is the average displacement of each particle in a time interval equal to 1/ n (n is frequency)?
5. Are all the particles in phase?
6. What is the shortest distance between two particles in phase?
7. What happens to the velocity of the wave when amplitude of particles motion is increased?
8. What happens to the velocity of the wave when frequency is increased?
9. For a given frequency what change is observed as the wave velocity is increased?

Note :

Questions given above may be visualized and solved using the simulations. However, obtaining a mathematical solution is to be always treated as the final answer and obtaining such a mathematical solution implies a deeper understanding and application of the concept.

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