



# Loreto Convent Intermediate College

Lucknow

## Holiday Homework

### Class- IX

### Subject- Physics

1. The distance of a galaxy from the earth is  $5.6 \times 10^{25}$  m. Assuming the speed of light to be  $3 \times 10^8$   $m s^{-1}$ , find the time taken by light to travel this distance?
2. The wavelength of light of a particular colour is 4580 angstroms. Express it in (a) nanometre and (b) metre.
3. Mass of a nitrogen molecule is 14.0 u. Find its value in grams.
4. Size of a particle is 4 nm. Find its value in metres.
5. Compare the time periods of a simple pendulum at places where  $g$  is  $2.25 m s^{-2}$  and  $1.44 m s^{-2}$  respectively.
6. A pendulum completes 10 oscillations in 15 s. (a) What is its time period?  
(b) If  $g = 9.8 m s^{-2}$ , find its length.
7. A simple pendulum is taken to a mountain so that acceleration due to gravity falls to  $1/16$ . Find its new time period.



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