Class 9   Worksheet
Physics

1. How moths of certain families are able to escape captures from bats? What is the range of frequencies associated with
    (a) infra sound? (b) ultrasound?
2. A sound has 15 crests and 15 troughs in 3 seconds. When the second crest is produced the first is 2cm away from the source? Calculate
    a. The wavelength
    b. The frequency
    c. The wave speed
3. Given that sound travels in air at 340m/sec, find the wavelength of the waves in air produced by 20 kHz sound source. If the same source is put in a water tank, what would be the wavelength of the sound waves in water?
    (Speed of sound in water is 1480m/s)
4. A sound wave has frequency of 100Hz and wavelength is 2.5m. How long will it take to travel a distance of 10km?
5. An echo returned in 3 s. What is the distance of the reflecting surface from the source, given that the speed of sound is 342 m s^{-1}?
6. A ship sends out ultrasound that returns from the seabed and is detected after 3.42 s. If the speed of ultrasound through seawater is 1531 m/s, what is the distance of the seabed from the ship?
7. A person is listening to a tone of 500 Hz sitting at a distance of 450 m from the source of the sound. What is the time interval between successive compressions from the source?
8. A baby recognises his mother by her sound. Name and define the characteristic of sound involved.
9. Briefly mention uses of ultrasound in the field of medicine, industry, electronic and music instruments.
10. How can multiple echoes of a single sound be produced? Explain.

CHEMISITRY

1. Give the chemical name and symbol of gold.
2. What is the molecular formula of barium phosphate?
3. Which postulate of Dalton's atomic theory can explain the law of definite proportion?
4. Explain the following;
    a) Law of conservation of mass.
    b) Law of constant proportions.
 5) Which has more number of atoms, 100g of sodium or 100g of iron? (Na=23u,   Fe=56u).
 6) Explain the drawbacks of Dalton's atomic theory.
 7) Define the symbol of an element with an example.
 8) Define atomicity of a molecule with an example.
 9) Determine the number of moles present in each one of the following;
    a) 280g of silicon (Si= 28 u)
    b) 100 g of glucose.
  10. How many atoms are present in 5 g of calcium? (Ca= 40 u)

BIOLOGY

1. Expand AIDS and HIV. How does AIDS transmitted from an infected person to a healthy person.
2. How does a vaccine work?
3. What are chronic diseases? Give some examples.
4. What is an antibiotic? Give two examples.
5. In a slum area, several people are suffering from malaria. What unhygienic conditions might be prevailing in that locality?
6. Why do female mosquitoes normally act as vectors of diseases?
7. Name two diseases caused by (a) Viruses (b) Bacteria (c) Fungi (d) Protozoa.
8. Name two diseases which spread through (a) Air (b) Water (c) Vectors   (d) Contact.
9. Distinguish between communicable and non-communicable diseases? Give two examples of each.
10. What are causes, symptoms and the methods of prevention and control of jaundice or hepatitis?