

**Pinnacle Academy**  
**Vacation Homework**  
**Class XI**  
**Subject : Zoology**

1. Describe the structure and function of setae.
2. Mention any 20 branches of biology and define them.
3. Draw well labeled diagram of process of conjugation in 'Paramecium' in chart paper.

**Pinnacle Academy**  
**Vacation homework**  
**Subject: Physics**  
**Class :11**

1. Define dimensions of physical quantities. Explain the uses of dimensions .
2. Check the correctness of the given formula dimensionally,  $S=ut+at^2$
3. Convert 72 km/hr in to m/s by dimensional method.
4. State triangle law of vector addition. Obtain the expression for resultant of two vectors A and B inclined at an angle  $\theta$ .
5. What are upper and lower fixed points. A faulty thermometer has its fixed points marked as  $5^\circ\text{C}$  and  $95^\circ\text{C}$ . The temperature of a body as measured by it is  $59^\circ\text{C}$ . find the correct temperature of a body in Kelvin scale.
6. Derive the mirror formula for a concave mirror for virtual image condition.
7. Draw with ray diagram for the formation of image by a concave and convex mirror for various position of the object and the mirror.
8. What is quantization of charge. Discuss the charging of a conductor positively by the method of induction.
9. Define the terms: a. mass defect b. binding energy c. isomers
10. The mass of  ${}_{17}\text{Cl}^{35}$  is 34.9800 amu. Calculate its binding energy and binding energy per nucleon. Mass of one proton = 1.007825 amu and mass of one neutron = 1.00865 amu.

**Assignment for English**

1. Write narrative essay on the topic “your favorite vacation with your family”.
2. Write about the challenge you are facing right now and what you plan to do about it.
3. Narrate your experience in a shopping mall or a crowded public place. Narrate the behavior and attitude of different kinds of people you see there.

**Pinnacle Academy**  
**Vacation homework**  
**Subject: Chemistry**  
**Class: XI**

1. State and explain Charles's law.
2. Define absolute zero. Why it is not attainable?
3. 500mL of 2g of an ideal gas exert the pressure of 300 mmHg at 290K. Find the molecular mass of an ideal gas.
4. What is molar mass? Find the molar mass of nitric acid.
5. How many molecules are present in 180g of water?
6. Why organic compound is found in large number?
7. What is meant by hydrometallurgy? Give an example of it.
8. Write the basic principle of gravity separation method for the concentration of ore. What type of ores are concentrated by this method?