POPULATIONS

- **Population** – the number of individuals of the same _____ in a given area at a given _____. Populations of organisms can change at different times of the day because some animals are nocturnal (active at night) while others are diurnal (active during_____), at different times of the year (as a result of migration) and so on.

- **Factors affecting Populations**
  1. Available resources (e.g. food, _____)
  2. Activities of other organisms (e.g. predators, _____)
  3. Organism's own characteristics (e.g. gestation period, number of young produced, nurturing of young, migratory)
  4. Time of day or year (e.g. tides, seasons, nocturnal or diurnal)
  5. Weather (e.g._____)

- **Population Change** – depends on birth, death, immigration and emigration on the whole

  Population Change = (B + I) – (D + E)

- **Population Density** – The number of organisms in a given area can affect the population due to competition for resources such as_____ and spread of disease.

  $$\text{Population Density} = \frac{\text{the number of individuals}}{\text{area or volume occupied}}$$

  For example, if there are 2000 pine trees over an area of 10 square kilometres, the population density would be _____ pine trees per square kilometre. However, bacterial population density estimates may be 2 thousand bacteria per millilitre of blood.

- **3 Population Sampling Techniques**
  1. Quadrat
  2. Transect
  3. Mark-Recapture Method