THE PRESENT THEORY OF NATURAL SELECTION

1. The **GENE POOL** is the total of all the **__________** of a population of a species in a given **__________**. The gene pool includes genes for both better-adapted and poorly-adapted **___________.** The gene pool has **genetic variation** as a result of:
   - Mutations
   - Chromosomal changes during meiosis and mitosis
   - Variations of combinations of gametes in sexual reproduction

2. **GENE FREQUENCIES** are the frequencies or numbers of genes of particular types in a population. Gene frequencies alter because of 3 factors:
   - Migration into or out an area
   - Isolation
   - Adaptation

3. **ISOLATION** is of 3 types:
   - **Geographic Isolation** (e.g. birds on different **__________,** wind-pollinated plants on different sides of a mountain, continental drift)
   - **Behavioural Isolation** (e.g. **__________,** and diurnal feeders)
   - **Reproductive Isolation** (i.e. a social or structural difference that prevents mating)

4. **ADAPTATIONS** are characteristics possessed by an organism that causes it to be better suited or better able to **__________** and reproduce in its surroundings. Adaptations may be:
   - **Structural Adaptation** (e.g. streamlined shape of **___________**)
   - **Physiological Adaptation** (e.g. hibernation of **__________** in cold climates)
   - **Colour Adaptation** (e.g. **__________**)
   - **Behavioural Adaptation** (e.g. nocturnal feeders in hot climates)
   - **Reproductive Adaptation** (e.g. peacock’s fanning display to attract a **__________**)

   Organisms with better-adapted characteristics will breed, passing the better-adapted gene to future generations, and **__________** the gene frequency of the better-adapted gene.

   Organisms that are poorly-adapted will breed less if at all, reducing the gene frequency of the poorly-adapted gene, possibly to the point of **extinction.**

5. **SPECIATION** - New species that can no longer **__________** with the original species develop over time in different areas.