Adaptation in Amphibians and Aquatic Animals

Adaptation in Amphibians

Amphibians are animals that can live both on land and in water. They have unique adaptations that help them survive in both environments.

Characteristics of Amphibians

Cold-blooded (ectothermic): Their body temperature changes according to the surrounding air or water temperature.

Vertebrates: They possess a backbone.

Breathing adaptations:

- **Larval Stage:** Young amphibians (like tadpoles) live in water and breathe through gills, similar to fish.
- **Adult Stage:** As they grow, they develop lungs and breathe air on land.
- **Moist Skin:** Even as adults, they can absorb oxygen through their moist skin, especially in water.

Locomotion adaptations:

Frogs have strong hind limbs (back legs) that help them jump efficiently on land.

Survival strategies:

They hibernate during cold weather to conserve energy and survive harsh conditions.

Adaptation in Aquatic Animals

Aquatic animals are those that live in water. They are divided into:

1. **Marine aquatic animals –** Live in saltwater (oceans, seas). Examples: fish, octopus, whales, dolphins, crabs.
2. **Freshwater aquatic animals –** Live in freshwater (rivers, lakes, ponds). Examples: freshwater fish, frogs, turtles.

Characteristics of Aquatic Animals

Streamlined Body Shape:

Helps reduce water resistance, making movement through water easier.

Respiration Adaptations:

Gills: Present in most aquatic animals (like fish) for breathing underwater.

Lungs: Found in some aquatic mammals (like whales and dolphins); they breathe through nostrils near the top of their head to inhale air at the surface.

Locomotion Adaptations:

Fins help aquatic animals swim efficiently.

Protective Features:

Scales cover the body of many aquatic animals, making them slippery and helping them escape predators.