What is biodiversity?

- Biodiversity is the variety of species, their genetic make-up, and the natural communities in which they occur.
- Biodiversity includes the diversity of genes within living organisms, the diversity of a species, and the diversity of ecosystems

Why is biodiversity important?

- Species and ecosystems provide essential goods and services upon which human well-being depends.
- They support our health, our environment and our economies.
- Ecosystem services:
    - Water purification - plants, animals and microorganisms in wetlands act as sponges to filter sediments and toxins from inflowing waters.
    - Pollination - insects pollinate crops worth $6-12 billion a year in the USA.
    - Disease control - natural enemies (predators and parasites) of disease carrying organisms (for example, ticks and mosquitoes) control diseases such as malaria, Lyme disease, hantavirus and cholera.
- Ecosystem goods:
    - More than 7000 species of plants are cultivated or harvested from the wild.

- Fish and other marine animals provide 20% of animal protein consumed, at a value of $50-$100 billion annually.
- Medicines - 118 of the top 150 prescription drugs in America contain chemicals derived from plants, fungi and other species.

How is biodiversity threatened?

- Our growing population and increasing consumption of natural resources places enormous stresses on natural ecosystems and species within them. Loss of and damage to habitats, over-harvesting, introduction of nonnative species to new areas, and climate change are major causes of species extinction and endangerment.
- In the United States alone, 4500 species are threatened with extinction.

How can we protect biodiversity?

- Although the biodiversity crisis is real, devastation is not inevitable. By acting quickly and wisely we can stem the loss of biodiversity. Scientists, policy makers and the public are starting to work together to develop sustainable ways of living that can benefit from biodiversity and also conserve it for the future.
- Scientists are studying species, ecosystems and their interactions with humans to learn about biodiversity, how it is changing and how we can conserve it.