2.1

* Groups of living things interact within ecosystems
  + Organisms occupy specific living areas
    - **Species** – groups of organisms that are so similar that they can produce offspring that can also produce offspring
    - Population – a group of organisms of the same species that live in a particular area
    - **Habitat** – the physical location where specific species live
    - **Niche** – the role an organism plays in its particular habitat
    - **Community** – a group of populations that live in a particular area and interact with one another
  + The environment can be organized into 5 levels
    - **Biome** – describes the climate and types of plants that are found in similar places around the world
    - **Ecosystem** – living and nonliving factors interact to form a stable system, includes only organisms and their local environment
    - **Community** – made up of the living components of the ecosystem
    - **Population** – group of organisms of the same species that live in the same area
    - **Organism** – a single individual animal, plant, fungus, or other living thing
  + Patterns exist in populations
    - Distribution in their living space
      * How they are spread around in a specific area

2.2

* Organisms can interact in different ways
  + Organisms interact in different ways
    - **Predator** – an animal that eats another
    - **Prey** – an animal that is eaten by a predator
    - **Competition** – the struggle between individuals or different populations for a limited resource
    - **Cooperation** – an interaction in which organisms work in a way that benefits them all
  + The survival of one species might depend on another species
    - **Symbiosis** – relationship between individuals of two different species who live together in close relationship
    - **Mutualism** – an interaction between two species that benefits both
    - **Commensalism** – a relationship between two species in which one species benefits while the other is not affected
    - **Parasitism** – a relationship between two species in which one species benefits while the other species (the host) is harmed
  + Interactions in an ecosystem are complex

2.3

* Ecosystems are always changing
  + Populations change over time
    - Populations grow and decline at different rates
      * **Limiting factor** – any factor or condition that limits the growth of a population in an ecosystem
      * **Carrying capacity** – the maximum number of individuals that an ecosystem can support
  + Ecosystems change over time
    - **Succession** – the gradual change in an ecosystem in which one biological community is replaced by another
  + **Primary succession** – the establishment of a new biological community
    - **Pioneer species** – the first living things to move into a barren environment
  + **Secondary succession** – takes place after a major disturbance to the biological community in a stable ecosystem