

# Science ISAT: General Science - Biology

## Skills: Understand the Theory of Biological Evolution

**Students:**

**RIT Above 240:**  
 • *No Skills Listed*

**Students:**

**RIT 231-240:**

- Classifies an organism as a fungus, based on observable or listed characteristics
- Recognizes characteristics of echinoderms
- Classifies animals to phylum platyhelminthes
- Describes assumptions of the theory of evolution (e.g., species vary, tendency of species to produce more offspring than the environment will support)
- Recognizes that gravity can affect the growth of plants

**Students:**

**RIT 221-230:**

- Classifies taxonomic groups of organisms as vertebrates and invertebrates
- Recognizes characteristics of mollusks
- Classifies animals to the phylum mollusca
- Classifies animals to phylum cnidaria
- Describes characteristics of protists
- Classifies organisms as protists
- Classifies organisms into a hierarchical structure based on observable characteristics
- Describes the hierarchical structure of the five kingdom classification system
- Recognizes factors that allow speciation to occur
- Recognizes examples of mimicry
- Evaluates survival of organisms in particular environmental conditions
- Explains how a given form of an organism may be more likely to survive in a particular ecosystem, causing a change in the abundance of that form of the organism within that population
- Assesses features of organisms (e.g., appendages, reproductive rates, camouflage, defensive structures) for their competitive potential
- Identifies responses in organisms to external stimuli found in the environment (e.g., the presence or absence of light)

**Students:**

**RIT 211-220:**

- Describes characteristics of arthropods
- Classifies organisms as arthropods (based on external characteristics)
- Classifies taxonomic groups of organisms as vertebrates and invertebrates
- Classifies animals to phylum arthropoda
- Describes characteristics of the five kingdoms
- Compares characteristics of organisms based on their position within the five kingdom classification hierarchy
- Describes characteristics of eubacteria
- Describes the process of classification of living things
- Predicts how variations provide an advantage in survival and reproduction
- Defines a gene pool as the collection of inheritable genes in a population
- Describes how the structure of a plant or animal complements the environment in which it is found
- Explains how an organism's body structures allow it to survive in a given environment
- Assesses features of organisms (e.g., appendages, reproductive rates, camouflage, defensive structures) for their adaptive potential

**Students:**

**RIT 201-210:**

- Describes structures that allow an organism to obtain information from its environment
- Recognizes that examining the structural characteristics of organisms can help one determine the environment in which an organism lives
- Describes characteristics of fungi (e.g., shape, structure, abundance, habitat)
- Classifies organisms (using common names) as vertebrates and invertebrates
- Classifies animals as amphibians
- Classifies animals as warm-blooded or cold-blooded • Compares characteristics of mammals
- Compares characteristics of birds
- Describes characteristics of reptiles
- Describes characteristics of insects
- Describes characteristics of amphibians
- Explains what criteria must be met for an animal to be classified as a vertebrate
- Compares characteristics of insects
- Recognizes characteristics of amphibians
- Classifies an unknown animal as a reptile, based on listed characteristics
- Classifies organisms by their internal characteristics
- Recognizes biological evolution as a type of change over time

## Science ISAT: General Science - Biology

### Skills: Understand the Theory of Biological Evolution

- Describes how the present form and function of an organism could have evolved from prior form and function
- Compares adaptations of plants and animals in different biomes
- Infers that living things must be adapted to their environment to be able to survive
- Assesses features of organisms (e.g., appendages, reproductive rates, camouflage, defensive structures) for their survival potential
- Predicts how light will affect the growth of a plant

**Students:**

#### **RIT 191-200:**

- Explains how physical characteristics of organisms help them to survive in their environments and reproduce
- Explains how physical features of organisms help them to survive in their environments
- Recognizes that living organisms can be classified using different characteristics
- Recognizes characteristics of vertebrates
- Recognizes characteristics of invertebrates
- Compares characteristics of mammals
- Describes characteristics of mammals
- Recognizes characteristics of reptiles
- Describes characteristics of reptiles
- Describes characteristics of fish
- Describes characteristics of insects
- Classifies an unknown animal as an amphibian, based on listed characteristics
- Classifies organisms by their external characteristics
- Defines classification
- Describes the concept of extinction
- Gives examples of extinct organisms
- Recognizes that biological adaptations include structural, behavioral, or physiological changes
- Describes structural adaptations that allow an organism to survive in a particular environment
- Explains how behavioral characteristics of organisms help them to survive in their environment
- Explains how the specific adaptations of an organism allow it survive in a particular environment
- Recognizes that camouflage allows an organism to blend in with its surroundings
- Describes how light affects the growth of plants

**Students:**

#### **RIT 181-190:**

- Explains how physical characteristics of organisms help them to survive in their environments and reproduce
- Gives examples of features that help plants and animals survive in different places
- Classifies commonly-known organisms (e.g., cat, dog, apple) based on external characteristics
- Groups organisms based on similarities
- Sorts living and non-living things using different characteristics
- Classifies an unknown animal as a mammal, based on listed characteristics
- Classifies major groups of organisms using the five kingdom system
- Describes how environmental changes cause species to evolve over time, thus producing new species

**Students:**

#### **RIT 171-180:**

- Explains how physical characteristics of organisms help them to survive in their environments and reproduce
- Recognizes similarities and differences in diverse species
- Groups organisms based on similarities
- Classifies animals as mammals
- Classifies an unknown animal as a fish, based on listed characteristics
- Describes behavioral adaptations (terminology not used) that allow an organism to survive in a particular environment
- Compares features of organisms (e.g., appendages, reproductive rates, camouflage, defensive structures) for their adaptive potential

**Students:**

#### **RIT Below 171:**

- Classifies animals as mammals
- Recognizes characteristics of birds