



Biology

Biology I: Bacteria, Protists, And Fungus Kingdoms

The word Biology is derived from the Greek words /bios/ meaning /life/ and /logos/ meaning /study/ and is defined as the science of life and living organisms. An organism is a living entity consisting of one cell e.g. bacteria, or several cells e.g. animals, plants and fungi. At Alamiyah, Biology will be studied in two parts: Biology I and Biology II. This part of the curriculum will allow pupils to study life and specifically the Bacteria Kingdom, the Protista Kingdom and the Fungus Kingdom which are the main dominant forms of life on Earth. Biology II will focus on a study on Plant and Animal Biology along with Human Biology. They will also learn about human life and have the opportunity to conduct research, observe and analyse, make hypotheses, conduct experiments and write reports on their findings.

Biology I Long Term Curriculum Plan

Area	Topic	Recommended Age/Stage
Introduction To Biology	Introduction The Story Of Life On Earth Living And Non-living The Domains Six Kingdoms: Presentation Characteristics Of The Six Kingdoms Six Kingdoms Chart Tree Of Life: Presentation Tree Of Life: Archaea Kingdom Tree Of Life: Bacteria Kingdom Tree Of Life: Protista Kingdom	Age 9 - 11 Years 5 - 6



	<p>Tree Of Life: Fungus Kingdom</p> <p>Tree Of Life: Plant Kingdom</p> <p>Tree Of Life: Animal Kingdom</p>	
Prokaryotic And Eukaryotic Cells	<p>The Prokaryotic Cell</p> <p>The Eukaryote Cell</p>	<p>Age 9 - 11</p> <p>Years 5 - 6</p>
The Archaea And Bacteria Kingdoms	<p>Introduction</p> <p>Timeline Of Life</p> <p>Key Experience</p> <p>The Archaea Kingdom Chart</p> <p>Classification And Research</p> <ul style="list-style-type: none"> ● Phylum Methanogens ● Phylum Extreme Thermophiles ● Phylum Extreme Halophiles <p>The Bacteria Kingdom Chart</p> <p>Classification And Research</p> <ul style="list-style-type: none"> ● Phylum Cyanobacteria ● Phylum Purple And Green Bacteria ● Phylum Prochlorophytes ● Phylum Mycoplasma ● Phylum Spirochaetae ● Phylum Thiopneutes ● Phylum Nitrogen Fixing Aerobic Bacteria ● Phylum Pseudomonads ● Phylum Omnibacteria ● Phylum Chemoautotrophic Bacteria ● Phylum Myxobacteria ● Phylum Fermenting Bacteria ● Phylum Aeroendospore ● Phylum Micrococci ● Phylum Actinobacteria 	<p>Age 9 - 11</p> <p>Years 5 - 6</p>



	Bacteria Reports Life Cycles How The Bacteria Satisfies Its Needs Who Am I? Stories	
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Area	Topic	Recommended Age/Stage
Protista Kingdom	Introduction Time Line Of Life Key Experience The Protista Kingdom Chart Classification And Research <ul style="list-style-type: none"> • Phylum Caryoblastea • Phylum Sarcodina The Parts Of The Amoeba <ul style="list-style-type: none"> • Phylum Actinopoda The Parts Of The Radiolarian <ul style="list-style-type: none"> • Phylum Foraminifera • Phylum Ciliophora The Parts Of The Paramecium <ul style="list-style-type: none"> • Phylum Apicomplexa • Phylum Cnidosporidia • Phylum Zoomastigina • Phylum Chrysophyta • Phylum Haptophyta • Phylum Dinophyta • Phylum Euglenophyta The Parts Of The Euglena <ul style="list-style-type: none"> • Phylum Cryptophyta • Phylum Xanthophyta • Phylum Bacillariophyta • Phylum Phaeophyta The Parts Of The Brown Algae (Kelp) <ul style="list-style-type: none"> • Phylum Rhodophyta 	Age 9 - 11 Years 5 - 6



	<ul style="list-style-type: none"> • Phylum Gamophyta • Phylum Chlorophyta • Phylum Labyrinthulomycota • Phylum Acrasiomycota • Phylum Myxomycota • Phylum Oomycota <p>Protista Reports</p> <p>Life Cycles</p> <p>How The Protist Satisfies Its Needs</p> <p>Who Am I? Stories</p>	
The Fungus Kingdom	<p>Introduction</p> <p>Time Line Of Life</p> <p>Key Experience</p> <p>Experiments With Yeast</p> <ul style="list-style-type: none"> • The Fungus Kingdom Chart <p>Classification And Research</p> <ul style="list-style-type: none"> • Phylum Chytridiomycota • Phylum Zygomycota • Phylum Ascomycota • Phylum Basidiomycota • Deuteromycetes • Lichens • Mycorrhizae <p>Fungus Reports</p> <p>Life Cycles</p> <p>How The Fungus Satisfies Its Needs</p> <p>Who Am I? Stories</p>	Age 9 - 11 Years 5 - 6



Biology: Plant, Animal and Human Kingdoms

At Alamiyah, Biology II will allow pupils to explore and investigate the Animal Kingdom and the Plants Kingdom. Pupils will learn that animals and plants are multicellular organisms with eukaryotic cells. This means that the cells have nuclei and organelles. Pupils will learn the differences between plant and animal life and the way in which plants make food through photosynthesis.

Biology II: Long Term Curriculum Plan

Area	Topic	Recommended Age/Stage
Chapter 6: The Plant Kingdom	<p>Introduction</p> <p>Time Line Of Life</p> <p>Key Experience: The Plant</p> <p>The Plant Cell</p> <p>Internal Parts Of The Root - Longitudinal Section</p> <p>Internal Parts Of The Root - Cross Section</p> <p>Internal Parts Of The Herbaceous Stem - Cross Section</p> <p>Internal Parts Of The Woody Stem - Cross Section</p> <p>Internal Parts Of The Leaf - Cross Section</p> <ul style="list-style-type: none"> • Photosynthesis <p>Key Experience - The Flower</p> <p>Internal Parts Of The Flower - Cross Section</p> <p>The Plant Kingdom Chart</p> <p>Classification And Research</p> <ul style="list-style-type: none"> • Phylum Hepatophyta • Phylum Anthoceroophyta 	Age 9 - 11 Years 5 - 6



	<ul style="list-style-type: none"> • Phylum Bryophyta • Phylum Psilophyta • Phylum Lycophta • Phylum Sphenophyta • Phylum Pterophyta • Phylum Cycadophyta • Phylum Ginkgophyta • Phylum Coniferophyta • Phylum Gnetophyta • Phylum Anthophyta <p>Plant Reports</p> <p>Life Cycles</p> <p>How The Plant Satisfies Its Needs</p> <p>Who Am I? Stories</p> <p>The Water Cycle</p> <p>The Nitrogen Cycle</p> <p>The Carbon Cycle</p>	
Chapter 7: The Animal Kingdom	<p>Introduction</p> <p>Timeline Of Life</p> <p>The Animal Cell</p> <p>The Animal Kingdom Chart</p> <p>Classification And Research</p> <ul style="list-style-type: none"> • Phylum Placozoa • Phylum Porifera • Phylum Cnidaria • Phylum Ctenophora • Phylum Mesozoa • Phylum Platyhelminthes • Phylum Nemertina • Phylum Gnathostomulida 	Age 9 - 11 Years 5 - 6



	<ul style="list-style-type: none"> ● Phylum Gastrotricha ● Phylum Rotifera ● Phylum Kinorhyncha ● Phylum Loricifera ● Phylum Acanthocephala ● Phylum Entoprocta ● Phylum Nematoda ● Phylum Nematomorpha ● Phylum Ectoprocta ● Phylum Phoronida ● Phylum Brachiopoda ● Phylum Mollusca ● Phylum Priapulida ● Phylum Sipuncula ● Phylum Echiura ● Phylum Annelida ● Phylum Tardigrada ● Phylum Pentastoma ● Phylum Onychophora ● Phylum Arthropoda ● Phylum Pogonophora ● Phylum Echinodermata ● Phylum Chaetognatha ● Phylum Hemichordata ● Phylum Chordata <p>Animal Reports</p> <p>Invertebrate/Vertebrate</p> <p>Phylum Porifera</p> <p>Phylum Cnidaria</p> <p>Phylum Platyhelminthes</p> <p>Phylum Nematoda</p> <p>Phylum Annelida</p> <p>Phylum Arthropoda</p> <p>Phylum Mollusca</p>	
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	Phylum Echinodermata Vertebrates Phylum Chordata - Fish Phylum Chordata - Amphibians Phylum Chordata - Reptiles Phylum Chordata - Birds Phylum Chordata - Mammals Mountain Lion (Cougar) Bobcat Wolf Coyote Black Bear The Great River The Systems Of The Human Body	
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