



Palo Alto Junior Museum and Zoo Classes Offered – Kindergarten

Life Science	
Life Lab	Students will meet a variety of different animals from the Junior Museum and Zoo. The lesson could include a general overview, or a focus on a specific group, such as reptiles, mammals, insects, etc. If you have a special request, please speak with the instructor.
Biomes	
Rainforest	Students will learn about what makes a rainforest unique. They will smell and taste food products, and be introduced to real rainforest flora and fauna.
Polar	Students will learn about what makes polar regions unique. They will investigate glaciers, icebergs, and animal adaptations.
Desert	Students will learn about what makes desert regions unique. They will be introduced to a variety of authentic desert flora and fauna.
Riparian (local creeks)	Students will learn about what makes the riparian biome unique. They will create a scientific model of a riparian corridor, and meet some riparian flora and fauna.
Wood	
Floating and Sinking	Students will learn about the scientific method, and perform an experiment to discover what makes an object sink or float.
Making Paper	Students will learn about the composition of paper, and past paper technology. Each student will make their own piece of paper out of recycled pulp.
Paper Engineering	Students will discover the surprising strength of paper. They will learn how to manipulate paper in order to increase its strength by building paper bridges and testing them.



Palo Alto Junior Museum and Zoo Classes Offered – 1st Grade

Organisms	
Habitats	Students will learn about what most animals need to survive. In groups, students will build a temporary terrarium to maintain and observe in the classroom.
Camouflage	Students will learn about the ways in which organisms can avoid being seen. Students will perform an experiment and collect data in order to understand how camouflage works. Students will also meet an animal that is a master of camouflage.
Adaptations	Students will use their own body to experience how adaptations affect an animal's survival. Students will also meet some zoo animals, and discuss their various adaptations.
Bats	Students will learn all about bats. They will learn the differences between micro and mega bats, see a variety of bat artifacts, and meet real fruit bats.
Air and Weather	
Air Pressure	Students will observe various experiments that demonstrate the air's influence on our daily life.
Wind	Students will learn about where wind comes from. Each student will construct an anemometer and use it to test wind speed.
Storms	Students will learn about storms and what causes them. Students will explore what causes tornados, lightning, and hurricanes.
Solids and Liquids	
Viscosity	Students will perform an experiment and record data in order to determine the viscosity of four liquids.
Phase Change	Students will learn about how a substance can change from one phase to another. They will perform an experiment and observe examples of phase change.
Surface Tension	Students will learn about surface tension by performing experiments comparing a liquid with high surface tension to one with low surface tension.



Palo Alto Junior Museum and Zoo Classes Offered – 2nd Grade

Insects	
Arthropods	Students will learn about and meet a variety of arthropods, including insects, arachnids, crustaceans, and myriapods.
Bee Society	Students will learn about bees and their unique behavior and life. They will see artifacts, taste honey, and observe specimens under microscopes.
Pebbles, Sand, and Silt	
Rock Cycle and Sort	Students will discover how rocks are created, and learn to scientifically categorize them.
Weathering and Erosion	Students will learn about how Earth structures break apart and move. They will conduct an experiment demonstrating how water erodes sand.
Sand Investigation	Students will learn about the diversity of sand across the Earth. They will explore the color, size, and special properties of sand.
Fossils	Students will learn about the process of fossilization, handle a variety of real fossils, and create their own casts.
Balance and Motion	
Balance and Falling	Students will discover the importance of center of gravity, and create their own balance toys.
Bouncing and Rolling	Students will conduct a scientific experiment and record data in order to discover what makes an object bounce and roll.
Speed and Friction	Students will conduct a scientific experiment and record data in order to discover how different surfaces affect how far a ball rolls.
Sound	
Ear Anatomy	Students will learn about the parts of the ear, and how our ear detects sound.
Pitch and Frequency	Students will learn what it means scientifically for a sound to have a pitch. They will create a poster illustrating a variety of different wavelengths.
Instrument Exploration	Students will learn how musical instruments produce sound. They will experiment with string and wind instruments.



Palo Alto Junior Museum and Zoo Classes Offered – 3rd Grade

Adaptations	
Baylands Plants	Students will learn about four native plants of the baylands. They will see some real specimens, and create scientific drawings.
Baylands Birds	Students will learn about the adaptations of bird's beaks and feet as they pertain to their life in the baylands. They will observe, and sketch real bird skulls and bird feet.
Fish Adaptations	Students will learn all about fish form and function. Each student will design and create a fish modeling real adaptations.
Sun Moon and Stars	
Reasons for Seasons	Students will learn all about what causes the seasons. They will perform an experiment and record data in order to discover some of the quantifiable differences between the seasons.
Telescopes	Students will learn all about how telescopes work, and how they enable us to learn more about the world around us. They will make daytime observations with real telescopes.
Starlab	Students will learn all about stars, including their size, temperature, life-cycle, and color. The entire class will enter a portable planetarium and learn about our local stellar neighborhood.
Energy and Matter	
Periodic Table Atoms & Molecules	Students will learn about the different elements, and how they combine to form the world around us. Students will create models of common molecules.
Chemical Reactions	Students will learn about chemical reactions, and perform a scientific experiment by mixing different chemicals together, and recording the results.
Potential vs. Kinetic Energy	Students will learn about mechanical energy and its many forms. Each student will create a toy that is powered by elastic potential energy.
Solar Energy	Students will discuss the many forms of energy, and Earth's primary energy source, the sun. Students will each build a mini solar cooker to take home.



Palo Alto Junior Museum and Zoo Classes Offered – 4th Grade

Environments and Animal Studies	
Animal Classification	Students will learn how and why scientists group animals, and they will meet some zoo animals.
Animal Morphology Squid Dissection	Students will learn all about squid form and function by dissecting real squid specimens.
Carnivorous Plants	Students will be introduced to several real carnivorous plants. They will record observations on each type of carnivorous plant in order to determine how they capture their prey.
Earth Science	
Rock Identification	Students will learn about the rock cycle, and how to accurately identify rocks by their type.
Mineral Identification	Students will learn how to identify minerals using real scientific methods, and apply their knowledge to identify “mystery” minerals.
Earthquakes	Students will learn about the cause and result of earthquakes. Students will interact with unique hands-on earthquake models.
Electricity	
Static Electricity	Students will learn how electricity is present in more than just electronics. They will perform real experiments, and interact with a Van de Graaff generator.
Circuits	Students will learn about how electricity functions in circuitry. They will build parallel and series circuits.
Electric Cars (2 class periods)	Students will put their electrical knowledge to the test in this two-part lesson. Each student will construct an electric car, and wire his/her own circuitry.



Palo Alto Junior Museum and Zoo Classes Offered – 5th Grade

Human Body	
Cells and Microscopes	Students will learn about the function of cells in the human body. They will learn how to use microscopes and prepare slides by observing their own hair, and cheek cells.
Cow Eye Dissection	Students will learn to identify the major parts of the eye, and describe the process in which our sense of sight works. They will dissect and examine real cow eyes.
Digestion	Students will learn the process of digestion in the human body. They will discover the unexpected properties of salivary amylase and hear the gurgle of their esophageal sphincter.
Lung Model	Students will learn about the respiratory system, and design models of the lungs and diaphragm.
Water Planet	
Water Pollution	Students will learn about the Earth's fresh water, and how so much of it becomes polluted. Students will create their own model of polluted water.
Water Filtration	Students will learn about how we treat polluted water to make it safe for consumption. Students will learn to filter polluted water using real scientific methods.
Dew Point	Students will discuss condensation and the water cycle. They will perform a scientific experiment and record data in order to determine the dew point inside and outside their classroom.
Mixtures and Solutions	
Identifying Mixtures and Solutions	Students will learn to differentiate between mixtures and solutions. They will perform an experiment using mixtures and solutions and record observations.
Saturation Points	Students will learn about saturation, and its relationship to temperature. Students will perform a scientific experiment in order to determine the saturation point of Epsom salt in water at three different temperatures.
Endo/Exothermic Reactions	Students will learn to define, describe, and identify endothermic and exothermic reactions. They will conduct a scientific experiment by mixing different chemicals together, and observing the reaction.