OFFICIAL GUIDE
IMAGES FROM AROUND THE AMERICAN MUSEUM OF NATURAL HISTORY

AMERICAN MUSEUM OF NATURAL HISTORY
ince 1869, the American Museum of Natural History has been an international leader in scientific investigation. Sponsor of thousands of field studies and expeditions, home to more than 30 million specimens and artifacts, and a center renowned for original research, the Museum affirms its commitment to exploration of the natural world. Each year, three million visitors are drawn to the Museum’s permanent halls, special exhibitions, and educational programs. Yet less than two percent of the collection is on public display. The rest is stored in scientific departments throughout the Museum’s 23-building complex, providing the raw data used to develop and test theories about the Earth and its life. Museum scientists—including the 40 curators who make up the core of a staff of 200 investigators, technicians, doctoral students, postdoctoral fellows, and research associates—are dedicated to understanding and preserving biological and cultural diversity. They focus on fundamental issues that concern us all:
- the evolution of the human species and of human culture
- past and present extinctions of plant and animal species
- patterns of social and biological adaptation
- processes that shape the Earth and provide the environmental framework for the evolution of life

Although much of the Earth has been traveled and examined, countless mysteries remain unsolved. The explorers of the next millennium will be the scientists who track ancient civilizations, piece together the events that shaped the continents, plot the course of evolution, and discover new organisms and habitats.
The Arthur Ross Hall of Meteorites contains 125 meteorites, including the largest on display in the world—a 34-ton fragment of the Cape York (Greenland) Meteorite, brought to New York by the explorer Robert E. Peary in 1897. Meteorites are pieces of asteroids and comets that broke off from their parent bodies and collided with Earth. The exhibit provides examples of every type, telling where they came from, what happened to them during their passage to Earth, and what they are made of. Samples of Moon rock from the Apollo 14, 16, and 17 missions are also on display. Meteorites provide insight into the origin and history of the Earth and other planets in the solar system. Scientists believe the Moon was formed more than four billion years ago as a result of a collision between the Earth and a smaller, Mars-size planet. A large meteorite impacted Mexico’s Yucatan Peninsula 65 million years ago, causing the extinction of the dinosaurs and many other species.

The 16-ton Willamette (Oregon) Meteorite arrived at the Museum in 1907. Consisting entirely of iron, it is the largest meteorite ever discovered in the United States.
two-ton block of copper ore exemplifies both the beauty and value of minerals. It was cut from Arizona's Copper Queen Mine for its potential yield of 2,000 pounds of pure copper— but was saved for the radiance of its green malachite and blue azurite. The Harry Frank Guggenheim Hall of Minerals presents the Earth's inorganic foundation in the form of minerals and their crystals, which are mined to create many of the products we use. Fluorite, for example, yields the fluorine incorporated in fluoride toothpastes as well as in the non-stick coating on some cookware. Plaster of Paris, named for the mines under the city of Paris, is made from gypsum. Gems are attractive, rare minerals, often used for personal adornment. In addition to having beauty, the ideal gem needs to be hard and durable, to withstand wear and tear. Nearly 2,000 gems and carvings are displayed in the John Pierpoint Morgan Hall of Gems. Its treasure chest of stones includes the 100-carat DeLong Star Ruby and the reddish orange 100-carat Padparadschah Sapphire.
BIOLOGY OF INVERTEBRATES

One of the giant squid's longer tentacles could wrap around an average human waist about ten times. An inhabitant of the ocean depths, the giant squid is one of more than one million animal species that lack a backbone. The Hall of the Biology of Invertebrates is devoted to this diverse category, which includes worms, spiders, crabs, mollusks, starfish, and the largest group, insects. Among the insects are the beetles known as fireflies; one display shows how they flash their abdomens to locate mates. Another exhibit describes the crabs, clams, tube worms, and other animals that live near geothermal springs on the floor of the Pacific Ocean.

Elsewhere, a model 75 times natural size replicates a male Anopheles mosquito (the females, which bite, are responsible for transmitting the disease malaria). Microscopic, single-celled creatures are represented 1,000 times natural size by delicate, blown-glass models, created decades ago by Hermann O. Mueller. Invertebrates are also featured in a separate hall, Mollusks and Our World.

Near the Museum's Southwestern Research Station in Arizona, entomologist Jerome Rozen searches for the nest of Conanthidicus, a tiny, solitary bee that lives in the ground.
The largest living creature on Earth, the blue whale has been hunted to near extinction. The Museum's 94-foot-long model, made of steel, fiberglass, and polyurethane, is a replica of a female blue whale that may have weighed in at 150 tons. Beneath the blue whale, the Hall of Ocean Life contains a series of dioramas portraying major ocean environments, including a sperm whale seizing a giant squid and walruses congregating in the Bering Sea. The upper gallery, Biology of Fishes, begins with a survey of how fishes meet the basic requirements of living in water—finding food, avoiding predators, and reproducing. A display of more than 400 models represents the major families of marine and freshwater fishes. Among the popular attractions are the various species of sharks, whose teeth have distinctive shapes. Nurse sharks have flat teeth for grinding the shells of crustaceans, while thresher sharks use their spikelike teeth for piercing and holding small fish. The serrated blades of the great white shark's teeth are effective for cutting through fleshy tuna and sea lions.
Seabirds fly to and from their nests on guano islands in the eastern Pacific, near the coast of Peru. Other dioramas in the Whitney Memorial Hall of Pacific Bird Life include honey creepers on Kauai, in the Hawaiian Islands, and a reconstruction of a moa, an extinct, ostrichlike bird whose bones have been found on New Zealand. All the locales were faithfully recreated by curators, designers, and artists, based on field observations, sketches, photographs, and specimen collection. Overhead, a sky-dome unites the hall with seabirds in flight, including species that range from the Antarctic to the tropics. Bathing the shores of five continents, the Pacific Ocean is dotted with thousands of islands, including those of Micronesia, Polynesia, and Melanesia. The Museum’s Whitney South Sea Expedition, which visited hundreds of these islands in the 1920s and 1930s, not only obtained many specimens for the hall but also determined much of what we know about bird distribution and evolution in the region.
mounted in a free-standing, active pose, the adult *Barosaurus* reconstruction was largely cast from a skeleton in the Museum’s collection. The plant-eating reptile rears up 50 feet into the air to protect its baby, behind it, from a predatory *Allosaurus*. Could a gigantic creature with so long a neck have actually stood on its hind legs? We cannot be sure, because *Barosaurus* became extinct about 150 million years ago. But some experts believe that it could have reared up to feed in tall trees or to defend itself. The *Barosaurus’s* home within the Museum is the Theodore Roosevelt Memorial Hall, dedicated to the 26th president of the United States. Roosevelt, whose father was a founding trustee of the Museum, was nicknamed the “conservation president” because of his devotion to preserving the natural environment. He doubled the number of national parks, created the first federal bird and game reserves, increased the number of national forests, and declared eighteen natural wonders to be national monuments—among them Arizona’s Grand Canyon and Wyoming’s Devil’s Tower.
yrannosaurus means “tyrant lizard.” With dozens of saber-like teeth, some the size of a human hand, this creature posed a real threat to its contemporaries. A major project is underway to renovate and expand all the Museum’s permanent exhibition halls dedicated to dinosaurs, prehistoric mammals, and other fossil vertebrates. *Tyrannosaurus* will be exhibited with *Apatosaurus* and other saurischians, one of the two large groups of dinosaurs recognized by scientists. Ornithischian dinosaurs, including *Triceratops* and *Stegosaurus*, will be featured in a separate hall. A special exhibition, “Work in Progress: Drawing Board to Dinosaurs,” has been created for Gallery 77, on the Museum’s first floor, so visitors can preview the new fourth-floor halls. Architectural drawings and scale models are accompanied by a selection of fossils from the Museum’s unparalleled collection. Gallery 77 also contains a prototype of an interactive computer system, which is being designed to inform museum-goers of the latest in evolutionary research.
The king cobra, the largest of all venomous snakes, prepares to defend its nest of eggs, while in the background an Indian python keeps its eggs warm by using periodic muscular contractions to raise its own body temperature. These snakes, both found in Southeast Asia, are among the few reptiles that provide parental care. Snakes, lizards, turtles, and other reptiles occupy one side of the Hall of Reptiles and Amphibians, while frogs, toads, salamanders, and other amphibians occupy the other side. In the center is the Galapagos tortoise, a native of an island far off the coast of Ecuador. Amphibians and reptiles are cold-blooded, which means their body temperatures are not constant but reflect the temperatures of their environments. Most lay eggs, either on land or in the water. From a frog’s egg comes an aquatic larva—a tadpole—which develops into a four-legged adult. The egg of a python yields a fully formed snake about a foot long.
Zebra and other animals converge on a water hole in arid lands south of Kenya’s Guaso Nyiro River. The dioramas in the Akeley Memorial African Hall show animals as they live—or lived—in the diverse environments of that continent, from the rain forests to the deserts, from the mountains to the grasslands. Carl Akeley sought to create exhibits that “would tell the story of jungle peace; a story that is sincere and faithful to the Africa beasts as I have known them.”

A taxidermist and sculptor, Akeley not only collected animal skins and bones but measured the specimens in the field, making casts of the faces and other parts of the flesh. Back at the Museum, he used clay to recreate the animals in lifelike poses. Light, hollow copies were then cast from these models, and the skins stretched over them. Many of the animals he admired, such as the mountain gorillas, are now threatened with extinction because of the encroachment of human populations.
Found in Sri Lanka, parts of the Indian subcontinent, and Southeast Asia, the Indian elephant can be trained to work and perform for humans. Other animals in the Hall of South Asiatic Mammals include lions, tigers, Indian and Sumatran rhinoceroses, Asiatic leopards, and several kinds of deer and antelope. One diorama provides a treetop view of a group of gibbons; in another, a pack of wild dogs attack a sambar, a large deer. The water buffalo, widely domesticated for use as a draft animal as well as for its milk, meat, and hide, is also featured. The hall was opened in 1930, when the threat to these species’ natural habitats was already becoming apparent. Today, many are protected species, but poaching for the illegal trade in fur, horn, and ivory places them on the brink of extinction. Lions, for example, which today are virtually extinct outside of Africa, ranged in historic times from the Balkans and Arabia to central India.
Until European settlers hunted them to near extinction, at least 60 million American bison, or buffalo, inhabited the Great Plains. Also roaming parts of the North American continent were jaguars, mountain lions, goats, sheep, and bears. Most are now a rare sight. Jaguars, for example, essentially extinct in the continental United States, were present in parts of the southwest until this century (and even in the southeast in early colonial times). The Hall of Mammals of North America and its adjoining corridors also feature smaller animals—ferret, badger, kit fox, flying squirrel, weasel, and a recent migrant from South America, the armadillo. Earlier this century, Museum collectors undertook more than two dozen cross-country expeditions to acquire the specimens, while artists drew from panoramic views of national parks to recreate the settings. In one of the dioramas, a mountain lion gazes out over the Grand Canyon. A separate, small display, Mammals of New York State, is found elsewhere in the Museum.
The Mark Twain Tree, a California sequoia, stood more than 300 feet tall when it was cut down by loggers in 1891. By counting its annual growth rings, we can tell it lived for 1,342 years. The Hall of North American Forests chronicles nine distinct vegetation zones: Olympic Rain, Giant Cactus, Southeastern Coastal Plain, Pinyon-Juniper, Oak-Hickory, Jeffrey Pine, Northern Spruce-Fir, Mixed Deciduous Forest, and Timberline in the Northern Rocky Mountains. Dioramas include cactuses in Arizona’s Saguaro National Monument, Sitka spruce and Douglas fir in Washington’s Quinault Natural Area, and tulip tree and sweet buckeye in Tennessee’s Great Smoky Mountain National Park. One diorama enlarges a tiny portion of the forest floor 24 times life size, startling visitors with its giant millipede, earthworm, daddy-longlegs, carpenter ant, and other creatures. The environment of New York State’s Dutchess County is explored in the adjacent Felix M. Warburg Memorial Hall.
n Andean condor, a scavenger that lives in South America, soars near Mount Aconcagua, the highest mountain in the Western Hemisphere. The other New World settings in the Hall of Birds of the World are the dense tropical forest of Panama, the marshes of the Argentine Pampas, and the treeless tundra of Canada. Africa is represented by the tropical forest of Zaire, featuring a mixed flock of insect-eating birds, and the open plains of Kenya, where weaver birds nest in a thorny acacia. European and Asian birds include bustards, cranes, and sandgrouse in the Gobi desert, nutcrackers in the Alps, and a tawny owl in an English beech forest. King penguins inhabit South Georgia, an island in the South Atlantic Ocean. A pair of copper pheasants court with Japan’s Mount Fuji in the background, while Australia’s eucalyptus woodland includes a superb lyrebird and crimson rosellas. Other halls in the Museum featuring birds are the Hall of the Biology of Birds, the Whitney Memorial Hall of Pacific Bird Life, Birds of the New York City Area, and the Hall of North American Birds.
A cutaway model of a longhouse shows Iroquois women cooking corn bread. Inhabited by several families related through females, the longhouse and its furnishings belonged to the resident women. Most of the native peoples living in the generally wooded region between the Mississippi River and the Atlantic Ocean farmed long before the arrival of Europeans. They dwelled in permanent villages and towns, the largest of which—Cahokia, Illinois—had an estimated population of 20,000 in A.D. 1150. Some Eastern Woodlands Indians were known for their powerful confederacies, which were politically adept and strong in war. The confederacies maintained their power for some time after the arrival of Europeans, occasionally by allying themselves with the French or English, and later with the colonial revolutionaries fighting for control of the country. The most famous confederacy was the League of the Five Nations, which, in about 1570, united the Iroquois tribes of upstate New York. These were the Mohawk, Oneida, Onondaga, Cayuga, and Seneca.
HUMANS ARE VERTEBRATES—ANIMALS WITH BACKBONES—a point museum-goers will learn along with the skeletal family, as they watch a videotape detailing how the skeleton and muscles function. The diorama is part of the Museum’s new permanent Hall of Human Biology and Evolution, which explores humanity’s place in nature by examining what we have in common with other living things and how we acquired our unique characteristics. The hall begins with a discussion of DNA—the molecule of life—and continues with displays on the vertebrate and mammalian body systems, primate evolution, and human evolution, to the earliest archeological evidence of human artistic creativity. Fossils show us how our precursors evolved and how and when modern human anatomy arose. One diorama recreates the moment three and one-half million years ago when two members of the species *Australopithecus afarensis* left the humanlike footprints discovered at Laetoli, Tanzania. A replica of 17,000-year-old cave art from France provides a glimpse of the emergence of the human spirit. Elsewhere in the Museum, the Hall of Primates provides a look at our nearest living relatives.

Preparator Cathy Leone airbrushes the skin tone of a female Neanderthal for the Museum’s new hall.
Before they acquired horses, Plains Indians hunted buffalo on foot, frightening them over the edge of a cliff. Renowned as brave warriors and daring hunters, the Plains Indians have come to symbolize the American Frontier. A grassland in the heart of North America, the Great Plains extend from Canada to Texas and from the Mississippi River to the Rocky Mountains. The immense herds of buffalo that once grazed the region provided food, tipi covers, robes, and other necessities for some thirty nomadic and seminomadic tribes. Following the introduction of the horse by the Spaniards, the hunting culture of the Plains reached its peak in the early nineteenth century. The Indians’ independent economic and political life was undermined, however, as thousands of hunters, settlers, and prospectors poured into the Plains, driving the buffalo almost to extinction. The government forced the Indians onto reservations where, despite great hardship, they preserved many traditions while adapting their lives to European American culture.
NORTHWEST COAST INDIANS

cedar dugout canoe carries a Chilkat chief of southern Alaska and his companions to a potlatch feast. The 63-foot-long canoe, carved about 1878 by Haida Indians in British Columbia, is the centerpiece of the Museum's 77th Street lobby, which also features a totem pole carved by Kwakiutl artist Richard Hunt in 1992. The Hall of Northwest Coast Indians, which adjoins the lobby, is lined with two rows of towering nineteenth-century totem poles and house posts; beyond is the Hall of Eskimos. Before the arrival of Europeans, at least 28 native peoples lived along the rugged seacoast from northern California to southern Alaska, harvesting shellfish, sea mammals, and fish, including the salmon that fought their way up the region's rivers to spawn. From the rot-resistant wood of cedar trees, the Indians made spacious houses, sturdy seagoing canoes, totem poles, ceremonial masks, and household utensils. The inner bark was fashioned into mats, bags, and clothing, while roots were woven into decorated baskets.

To increase access to the Museum's artifacts while diminishing their handling, a data-base system is being developed which allows researchers to call up a description and image of each object, such as this Tlingit mask.
The Aztec Stone of the Sun symbolizes beliefs of the Aztecs concerning the creation and destruction of the world during successive ages. Among its many elements is the Sun God, in the center, ringed by the twenty day signs used in the Aztec’s 260-day ritual calendar. The original monument, from which the Museum’s reproduction was cast, weighs twenty tons. The Aztec civilization of central Mexico, conquered by the Spaniards in the sixteenth century, is one of the indigenous civilizations chronicled in the Hall of Mexico and Central America. The Olmec, who flourished in Central America from 1200 to 400 B.C., favored jade for making tools and ceremonial objects, among them representations of the Were-Jaguar, which merges a human figure with the face of a jaguar. On a more massive scale is the colossal Olmec head, reproduced at the Museum from the stone original. Polished jade jewelry, ceramic figurines, carved stone monuments, and scale models of pyramids illustrate the Maya civilization, which was at its height from A.D. 250 to 900.
he Amahuaca bow hunter, an inhabitant of the Amazon Basin, knows how best to track his prey, even the call that will lure it closer. The Hall of South American Peoples reveals a continent where human culture was established at least 11,000 years ago. From the high Andes west to the coastal deserts and east to the Amazon Basin, the land is diverse in topography and resources. Archeological artifacts from the Inka and other past civilizations include ceramics, textiles, and objects of gold and silver. Other artifacts document the peoples of the Amazon Basin. The basin’s rivers provide fish and transportation, while the forest provides wild plant and animal foods. Manioc, maize, and other crops are also cultivated, using the slash-and-burn technique of clearing plots of forest land. The exhibits illustrate the culture of Amazonian peoples before it was modified by European contact. Many groups still survive, but their habitat is rapidly being destroyed.
Dressed to inspire fear, a Bira priest from Zaire leads the initiation ceremony in which boys advance to manhood. His raffia armbands represent a mythical bird, and his painted spots symbolize the leopard—both considered tribal spirits. The Hall of African Peoples details how indigenous populations adapted to the continent’s deserts, temperate river valleys, vast grasslands, and tropical forests. Before the era of European colonization, Africans lived in many kinds of societies, from powerful kingdoms that operated wide trading networks to small groups that farmed, herded cattle, or obtained the necessities of life by hunting animals and gathering plants. In all these communities, people created art, including decorated household objects, musical instruments, and costumes. Many works of art had religious significance, and were used in ceremonies to appease dangerous forces and to honor helpful spirits, leaders, and ancestors. When Africans first came to the Americas—most brought over as slaves—they carried their knowledge and memories with them, and many aspects of their culture took root and developed in the New World.
As part of a wedding ceremony held in a small village in central India, the village barber guides the bride and groom as they circle the sacred fire seven times. The Gardner D. Stout Hall of Asian Peoples embraces an immense range of traditional cultures, from the Semai hunters of the Malaysian rain forest to the Chukchi reindeer herders of the frozen Siberian steppe. High in the Himalayas, Tibetans blended their ancient religion with Buddhism and created a distinctive form of religious paintings called tangka, while the Japanese expressed other Buddhist ideas in their Noh drama. Asia is the site of the world’s earliest civilizations—in Mesopotamia, India, and China—societies ruled from central cities, which in ancient times were also ritual centers. Systems of writing, devised to enhance the work of priests and administrators, furthered the spread of the major religions and philosophies that arose in Asia, including Confucianism, Hinduism, Buddhism, Judaism, Christianity, and Islam.
A gigantic head is one of 250 such statues carved and erected on Easter Island in prehistoric times. The Museum’s reproduction was cast from the original, which consists of hardened lava. The Margaret Mead Hall of Pacific Peoples is the legacy of the life work of anthropologist Margaret Mead, who conducted field research and collected artifacts from three of the island regions of the Pacific—Indonesia, Melanesia, and Polynesia. She investigated adolescence in Samoa, childhood and rapid culture change in the Admiralty Islands, gender roles in New Guinea, and Balinese character. Mead used her knowledge of other cultures to illuminate the nature and problems of industrial, Western society. Artifacts in the hall include feather cloaks from Hawaii, spirit masks from New Guinea, coconut-fiber armor from Kiribati in Micronesia, Australian boomerangs, batik cloth and shadow puppets from Indonesia, a bolo knife from the Philippines, and a Maori chief’s carved storehouse from New Zealand.
Through the ages, the night sky has been linked with romance, mystery, and power. Established more than fifty years ago, the Hayden Planetarium strips away some of the myth and superstition concerning the universe without taking away any of its magic. The Planetarium Sky Theater simulates the night sky on a 75-foot-diameter dome. The "star" of the show is the Zeiss VI Star Projector, controlled by one of the largest planetarium computer automation systems in the world. With an array of special-effect, video, and laser projectors, it takes visitors on a journey through outer space, while an 11,000-watt multichannel sound system provides music, dialogue, and sound effects. The Guggenheim Space Theater on the Planetarium's first floor features a 48-foot model of the solar system. Visitors can also view the rings of Saturn, the Aurora Borealis, a solar eclipse, and other spectacles in the Black Light Gallery, decorated with giant astronomical murals, or tip the scales to find out their weight on other planets.
The Museum has an ongoing program of special exhibitions, IMAX films in the NatureMax theater, lectures, and other educational programs. Gallery 3 recently featured Global Warming: Understanding the Forecast, an exhibition created at the Museum and now on tour. Other facilities include restaurants, shops, and the largest natural history research library in the Western Hemisphere. Illustrated directories are posted near the entrances and elevators, while free printed floor plans as well as the signs throughout the Museum are designed to help visitors find their way. Free tours of Museum highlights are also provided, guided by volunteers. Members of the American Museum of Natural History enjoy many additional benefits, including free admission and a subscription to the monthly magazine Natural History. For further information, write to the Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192, or telephone 1-800-234-5252.

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A termite is preserved in a 30 million-year-old piece of amber, or fossil sap. A team of researchers at the Museum's new Molecular Systematics Laboratory have extracted DNA from the remains of the termite—the oldest DNA ever recovered—casting new light on insect evolution.