**بحث باللغة الانجليزية عن الحيوانات جاهز و كامل و مميز**

**Elephants**

**Introduction
Elephant, huge mammal characterized by a long muscular snout and two long, curved tusks. Highly intelligent and strong, elephants are the largest land animals and are among the longest-lived, with life spans of 60 years or more. Healthy, full-grown elephants have no natural enemies other than humans.
Throughout history, people have prized elephants for their great size and strength
. On the battlefield, soldiers astride elephants have trampled and terrified enemies. Elephants also have been trained to carry heavy supplies through jungles and to haul huge logs from the forests where they once lived.
Elephants have long been revered and honored, and in Thailand, India, and other Southeast Asian countries, beautifully decorated elephants still play a significant role in traditional religious ceremonies. According to Buddhist tradition, the Buddha chose the form of a white elephant as one of his many earthly incarnations, and the rare appearance of a white elephant is still heralded as a manifestation of the gods.
Over the past 40 million years, more than 600 species of elephants have roamed the earth. Today only two species are alive—the African elephant and the Asian elephant. Climate fluctuations over the millennia and resulting vegetation changes caused the extinction of many elephant species, but human impact has also taken its toll. At the turn of the 20th century, elephants numbered from 5 million to 10 million, but widespread hunting and habitat destruction reduced their numbers to an estimated 640,000 by the end of the century. Present-day efforts to save elephants may be inadequate, and biologists are unsure if elephants as a species will survive.**

**Evolution
The earliest known ancestors of modern-day elephants evolved about 65 million years ago in the region now known as Egypt. Called Moeritherium, these swamp-dwelling animals were from pig- to cow-sized, with an elongated snout but no trunk. They sported two pairs of slightly elongated front teeth—indicators of what would eventually evolve into tusks. Three groups of elephant-like animals descended from Moeritherium: Deinotherioidea, Mastodontoidea, and Elephantoidea. Deinotherioidea evolved from 54 million to 38 million years ago and lived in parts of Asia, Europe, and Africa. It possessed a trunk and two tusks, which pointed backward, possibly for hoeing up food from the edges and bottoms of swamps. The last surviving members of this group died out about 10,000 years ago.
The earliest members of the Mastodontoidea group evolved about 38 million years ago. These animals had elephant-like trunks, and, depending on the family, displayed either two or four tusks. The upper tusks were vertical, or upward pointing. The lower set, when present, bent forward and were sometimes shaped like shovels, apparently for digging plant roots and bulbs. The mastodon, the most familiar member of this group, evolved about 15 million years ago, and spread to Europe, Asia, Africa, and North America. Its descendants lived in the cold world of the last great Ice Age—2.5 million to 8000 years ago, when thick glaciers covered parts of North America and Europe. The mastodon had two tusks that curved upward and was covered with a thick coat of shaggy hair. About 10,000 years ago, early humans began hunting mastodons, contributing to their extinction.
The Elephantoidea group, which evolved 8 million to 10 million years ago, includes the mammoth and Stegolophodon. The mammoth also lived during the Ice Age and
[align=center]was covered with a thick, woolly coat. Unlike the mastodon’s forward-curving tusks, the mammoth’s tusks curved backward. The mammoth displayed a prominent hump on its back. Mammoths roamed North America, Africa, Europe, and Asia, were hunted by early humans, and died out about 8000 years ago. Stegolophodon evolved about the same time as the mammoth and inhabited Europe, Asia, and Africa. Its tusks and other features were intermediate between the mammoth and modern-day elephants. Stegolophodon’s descendants are the African and Asian elephants of today.**

**Range and Habitat
Fossils of elephant ancestors indicate they once lived on every continent except Australia and Antarctica, but elephant habitat today is restricted to Africa and parts of Southeast Asia. Elephants occupy an array of environments in Africa and Southeast Asia—grasslands, marshes, forests, deserts, and mountains. They are herbivores, or plant eaters, and need great quantities of food to sustain their massive size. They also need a lot of drinking water and so are restricted to areas with ample vegetation and adequate water.
Even small herds of a few elephants can quickly deplete the food and water resources of an area, forcing them to keep on the move. A herd of elephants migrates seasonally in an extended loop, looking for fresh resources within its home range, which can extend over 1500 sq km (600 sq mi). In its search for food, an elephant can travel 5000 to 10,000 km (3100 to 6200 mi) in one year, the longest mammal migration on record.**

**Physical De@\_@@\_@@\_@@\_@@\_@@\_@ion
African and Asian elephants differ in size, color, and other physical characteristics. The African elephant can be distinguished by its larger size and broader ears that drape over its shoulders. Males, or bulls, may reach 4 m (13 ft) in height and weigh 7000 kg (15,400 lb). Females, or cows, are shorter, averaging 2.8 m (9 ft) in height, and weigh considerably less, about 3600 kg (7900 lb). African elephants are light gray in color, although they can appear dark gray, red, or brown from the mud they bathe in. They have a low, flat forehead and a slightly swayed back. Their fan-shaped ears average 1.5 m (5 ft) in length and 1.2 m (4 ft) in width. Both bulls and cows have long, curved tusks.
Asian elephants are shorter and stockier than their African relatives, with ears that do not reach their shoulders. The average Asian bull stands 3 m (10 ft) tall and weighs 2300 kg (5100 lb), about half the weight of male African elephants. Cows reach an average height of 2.4 m (7.8 ft) and weigh an average of 3000 kg (6600 lb). Asian elephants have dark gray skin, a bulbous forehead, and a rounded back. Ear size averages 0.75 m (2.5 ft) long and 0.6 m (2 ft wide). The cow’s tusks may be either absent or undeveloped.
Despite their great weight, elephants walk almost noiselessly with exceptional grace, their columnar legs keeping their bulk moving forward in smooth, rhythmic strides. A thick cushion of resilient tissue grows on the base of each foot, absorbing the shock of the weight. The toes help balance the weight in walking. Elephants normally walk at a speed of about 6 km/h (about 4 mph) and can charge at up to 40 km/h (25 mph). They cannot gallop or jump over ditches, but readily take to rivers and lakes, where the water supports them and enables them to swim long distances without tiring.
An elephant's nose and upper lip are combined in a long, limber trunk, an exceptionally supple appendage with an estimated 150,000 muscle units. The versatile trunk acts like a hand for grasping low-growing shrubs and other food and placing it**

**into the mouth; an arm for breaking off tree branches; or a snorkel for breathing when the elephant's body is submerged. Elephants also use their trunks to suck up water and squirt it into their mouths for drinking or over their bodies for bathing. Nostrils at the trunk’s tip enable elephants to detect odors. For faint scents, elephants sample the air with their nostrils. They then place the trunk in the mouth, where special organs pick up the odor. African elephants have two small, flexible lips at the end of the trunk for picking up small \*\*\*\*\*\*s. Asian elephants have only one lip at the end of the trunk, which they use for the same purpose.
Elephant tusks, the paired, elongated upper incisors, or teeth, are the largest and heaviest teeth of any living animal. The tusks are used for digging for roots and water, stripping the bark off trees for food, fighting each other during mating season, and, in African elephant cows, warding off predators of baby elephants such as lions and tigers. In a calf, the first incisors are replaced within 6 to 12 months of birth, and the second set, which becomes the tusks, grows at the rate of about 17 cm (about 7 in) per year throughout life. Tusk growth is determined by genetics and nutrition, and over the years, normal wear and tear scales down their length. An African bull tusk typically weighs 20 to 45 kg (50 to 100 lb) and is 1.8 to 2.4 m (6 to 8 ft) in length. The tusks of an adult Asian bull average 1.5 m (5 ft) in length and 30 kg (70 lb) in weight. The more massive tusks of the African elephant, and the fact that both bulls and cows have tusks, make these animals a more desirable target for ivory hunters than Asian elephants.
Elephants have a total of four teeth, all molars, which have jagged ridges for grinding leaves, stems, and roots. A single tooth can weigh more than 5 kg (11 lb) and measure 30 cm (12 in) in length. The first pair of molars is located toward the front of the mouth; when these front molars wear down, they drop out in pieces as the two molars in the back shift forward. Two new molars then emerge in the back of the mouth to replace those that have moved forward. Elephants replace the back molars six times throughout life. When the last set of molars wears out—anywhere between 40 and about 60 years of age—an elephant can no longer chew food and dies of starvation, a not uncommon death among elephants.
Elephant skin is wrinkled and thick (2.5 cm/1 in) with a sparse covering of bristle-like hair. Despite its thickness, the skin is subject to infection by lice, ticks that carry blood-borne diseases, and the larvae of the warble fly, which bore into the elephant’s body and cause swelling and bleeding. Elephants frequently cover themselves with dust, bathe in water, and take mud baths to protect their skin.
Elephants lack sweat glands in their skin and their ears act like radiators for releasing body heat. By flapping them, an elephant brings the many blood vessels within each broad ear into contact with the air, which cools the blood before it circulates again through the body. This cooling mechanism may explain why the African elephant, which evolved in a hot climate, has ears larger than those of its Asian relative, which evolved in a cooler area. An elephant’s tail is hairless but has a skimpy brush at its tip, a useful tool for whisking away pesky flies. A typical tail can weigh 10 kilograms (22 lb).
Elephant eyesight is poor, and the eyes are small in relation to the enormous head, which can turn just slightly from side to side. This limited movement results in restricted side vision, and an elephant must move its whole body to broaden its range of vision. Its other senses—hearing, smell, taste, and touch—are acute. The most sensitive organ is the trunk, which is frequently at work picking up scents of food and danger from the ground and air. Elephants can smell water at great distances and can hear certain sounds from more than a mile away.**

**Elephants dine on a wealth of plant parts—leaves, twigs, bark, shoots, fruit, flowers, roots, tubers, and bulbs—from as many as 80 different plant species. They use their trunks for uprooting clumps of grass and for plucking branches and leaves from shrubs and trees. Hungry African elephants may apply their full weight to a tree trunk, devouring all edible parts after the tree has toppled. Wild Asian elephants eat more grasses, including rice, than their African cousins do; Southeast Asian rice farmers must defend their crops from elephant herds on the move.
The digestive system of elephants is less efficient than those of other herbivores such as antelope and buffalo. Food passes quickly through the digestive system before nutrients are absorbed, causing elephants to discard about half the plant material they consume. This inefficient digestive system means that elephants must eat large quantities of food to retain and absorb necessary nutrients for good health.
In the wild, elephants devote about three-quarters of their day to feeding. An adult elephant eats 75 to 150 kg (165 to 330 lb) of food each day. Records of zookeepers in the United States show that the average elephant in captivity eats about 39 kg (about 87 lb) of hay; 5 to 7 kg (10 to 15 lb) of grain; and 5 to 7 kg (10 to 15 lb) of carrots in 24 hours. Elephants in captivity are also fond of apples, cabbages, and other fruits and vegetables.**

**Reproduction
@\_@@\_@@\_@ual maturity among bulls begins at about 11 to 12 years, but during mating season older bulls drive the younger ones away; bulls typically do not mate until around age 30. When a bull is about 20 to 25 years of age, the large glands on both sides of its head begin to swell and secrete an oily, testosterone-rich fluid. The bull's behavior becomes erratic and often aggressive toward other bulls and humans at this time. This event, known as musth, occurs annually throughout the bull’s lifetime, lasting for several days or several months depending on the animal's age and overall health. Scientists are uncertain of musth’s full significance, but many believe it is related to the social hierarchy among bulls that controls access to cows during the mating season.
Cows begin breeding at about nine years of age and typically come into estrus, or heat, every 16 weeks, at which time they are receptive to mating. While pregnant, a cow’s estrus cycle halts and she does not mate. Soon after a cow gives birth, her estrus cycle begins again and she mates even if she is nursing. There is no breeding season for elephants—mating occurs throughout the year. Elephants do not mate for life. Bulls and cows form temporary pairs prior to mating, and after a brief courtship, the bull mounts the cow from behind, copulating for less than a minute. Mating may continue for several days. Usually, one bull mates with several cows, guarding them from the advances of other bulls.
Cows give birth to single calves 20 to 22 months after conception, the longest gestation period known for any animal. Cows may give birth alone or surrounded by other cows. A newborn elephant is about 1 m (about 3 ft) high and weighs about 120 kg (about 260 lb). The calf is initially helpless and unable to control its leg muscles and trunk. After one to two hours, the calf is able to stand and suckle, obtaining milk from its mother’s paired mammary glands, which are located between the front legs.
Between three and four weeks, calves begin to experiment with feeding themselves; it may take six months before a calf can master the skill of drinking with its trunk. By**

**the age of nine months, calves spend almost half of their time feeding on vegetation. They are weaned at about three or four years of age upon the birth of a younger brother or sister. In captivity, cows have borne calves until they are 60 years of age, at intervals of about four years.
One or more allomothers, or "aunts," often assist in the rearing of a calf, staying near the calf, for example, while the mother moves away to forage for food. The more allomothers, the greater the chances of the calf's survival. By age ten, a calf will weigh 900 to 1300 kg (2000 to 3000 lb). It will attain most of its height between the ages of 20 and 25, but unlike other mammals, will continue to grow at a slow rate throughout life.**

**Behavior
Elephants display complex social behavior, living in tightly knit families that are matriarchal—that is, headed by the oldest females. Families are composed of sisters, cousins, aunts, and nieces, and their young offspring, and range in size from 2 to 29 individuals. These animals may remain together for life. If a family becomes too large, a few females leave to start a new herd. The members of a family bathe, forage, and travel as a group. Family members typically stay within 46 m (150 ft) of the matriarch, maintaining contact with their calls. If they are separated even for a matter of hours, their reunion is marked by an elaborate greeting ceremony, which includes running, rumbling, spinning, trumpeting, defecating, urinating, clicking tusks, and rubbing each other’s bodies with their heads. The family also defends the young, sick, old, and disabled from predators. When the elder cow in a family dies, the next oldest usually takes her place as leader.
Young males begin to wander away from the family at about age six, and gradually spend more and more time away, alone or in the company of other young males. When they become @\_@@\_@@\_@ually mature they either leave the family for good or are driven away by the older females. They may roam about on their own or join other males to form bachelor herds, remaining nearby but operating independently of the female-led family units. Bulls within bachelor herds occasionally battle, although rarely to the death, to determine who is boss within their herd.
During their seasonal migrations, many family groups may travel together as a single herd led by the oldest female, the matriarch. If a predator threatens, the herd groups together, with the matriarch facing the enemy and the young elephants hiding behind the adults. When danger comes too close, the matriarch charges or leads the herd in a stampede to defeat the enemy.
Elephants communicate with each other through touch, sound, scent, and body @\_@@\_@@\_@@\_@@\_@@\_@@\_@@\_@. Touching is done mainly with the trunk, and can range from a cow's gentle caress of her calf to a disciplinary slap delivered by a matriarch to an unruly sub-adult male. Shoving, kicking, and rubbing against each other are other ways that elephants communicate.
Elephants also raise their voices to communicate, trumpeting as a warning or greeting to other elephants nearby. These animals also produce low-frequency rumbling sounds, which can travel over great distances, reaching the ears of elephants several kilometers away. Recent research indicates that elephants also communicate with infrasound, sounds inaudible to human ears.
Elephant communication includes the secretion of different pheromones in urine or dung. These chemical scent signals can be detected by nearby elephants, or carried by the breeze to elephants at a distance. The secretions of the glands during musth also convey scent messages. In addition, information is shared through various body poses.**

**[align=center]An African elephant, for example, spreads its ears wide and may flap them while holding its trunk against its body to signal it is about to charge.
Much has been written about the emotional life of elephants. Observation of wild elephants has proven them to be loyal and affectionate, willing to risk their lives for the sake of others in a family group. Wild elephants have been known to celebrate births of new elephants and to grieve and even shed tears over the death of a family member. In captivity, elephants can become attached to a particular zookeeper or circus worker, refusing to cooperate for anyone else.
Elephants are a key species in the ecology of forests and savannas. While feeding, they shape the environment around them. By eating greenery high above ground, they punch holes through which sunlight penetrates, enabling low-growing plants to thrive. By uprooting grasses, they turn over the soil, aerating it so new plants grow to replace the ones that are eaten. In times of drought, they dig water holes from which other wildlife also drink. As they walk through the dense forests and jungles, elephants clear paths that smaller animals, including humans, can use.**

**Intelligence
It is difficult to measure the intelligence of any animal, including human beings. Nevertheless, there are strong reasons to believe that elephants are capable of higher mental functions than many other mammals, including domestic dogs and cats. One indicator is the ease with which elephants can learn tricks or tasks, an aspect of their intelligence that has been put to use by circus owners and mahouts, or trainers, in Asia, many of whom teach their elephants to haul logs or transport travelers.
A young elephant remembers the different paths to food or water marked out by an older cow, another indicator of intelligence. Playful behavior, observed in primates and other animals recognized as highly intelligent, is typical of young elephants, who put much energy into games of hide and seek, tug of war, and \*\*\*. Play provides a young elephant with the social skills needed to live in a family unit, while strengthening its muscles and improving its coordination for the tasks it carries out as an adult, such as foraging, bathing, and mating.**

**Elephants and Humans
For more than 2000 years, Asian elephants have been captured and trained to serve people. African elephants were used by Carthaginian general Hannibal to carry his supplies across the Alps during his famous march to conquer Rome in the 3rd century. As recently as the 16th century, elephants were harnessed and ridden onto the battlefield, and during World War II (1939-1945) they were used to drag heavy military equipment up steep, muddy slopes.
Although no longer employed for warfare, Asian elephants continue to earn their keep in Southeast Asia and India. Approximately 13,000 to 16,000 of these animals—roughly 25 percent of the world's wild Asian elephant population—have been captured and trained to perform a variety of tasks. Pulling logs out of forests, carrying passengers and freight, and assisting in capturing wild elephants are among the many jobs requiring intelligence and strength that elephants perform.
Logging tasks in particular demand high levels of skill. Initial training of elephants for the timber industry may take three to five years. After that, the elephants are individually fine-tuned for another ten years before they are sent out to haul logs from the forests. The graduates of logging schools may work for 30 years or more, retiring at about 50 years of age. The elephant's trainer (called an oozie or mahout) earns his livelihood by charging money for use of his skilled elephant. The trainer often grows**

**[align=center]old along with his student, during which time an unbreakable bond of mutual respect and genuine friendship forms between the two.**

**Status
African and Asian elephants are now endangered species. A variety of forces have contributed to their decline. Elephants have been slaughtered in past centuries solely for their tusks, which are made of highly prized ivory. In the 1900s the wild elephant population stood at 5 million to 10 million; by 1979 hunting and habitat destruction had reduced it to 1.3 million. In the ten years between 1979 and 1989, the collapse of oil prices generated pursuit of other moneymaking ventures, and an estimated 600,000 African elephants—almost half the population—were slaughtered for ivory.
In June 1989 the United States banned all ivory imports, with other nations adopting similar bans soon thereafter**

**. Under the African Elephant Conservation Act, the United States established a program to award up to $5 million a year for projects to help stop the killing of elephants in Africa. Even with such protective measures in place, ivory poaching remains a major threat. Poachers kill older elephants, including matriarchs, for their larger tusks. Herds depend on the matriarch, and her loss may interfere with the herd’s ability to migrate for food and protect the young. When mother elephants are killed, the nursing young often do not survive.
Battles over shared land and its resources also cause many elephant deaths in both Africa and Asia. Increasing population and displacement resulting from forces such as consolidation of small farms drive people to clear jungles and forests for new farmland and homes. In an effort to ensure their own survival, people rob elephants of opportunities to thrive and reproduce. In many countries, wild elephants can only be found within national parks, many of which are too small and isolated to support the growth of herd populations. As a result of human impact and limited success in preserving their habitats, the number of African and Asian elephants has dropped to a dangerous low.
Elephant researchers, wildlife managers, and conservationists all over the world are currently cooperating to ensure the survival of African and Asian elephants in the wild. Among the more active organizations are the World Wildlife Fund and the World Conservation Union (IUCN). Zoos are also dedicated to promoting elephant survival, providing needed educational programs about this magnificent animal and its plight. The American Zoo and Aquarium Association has established captive breeding programs for Asian and African elephants in an effort to prevent their extinction. Transporting elephants from the wild to zoo populations is now illegal, and if breeding programs are unsuccessful, the captive elephant population is projected to die out by the year 2030.
Scientific classification: African and Asian elephants are members of the elephant family, Elephantidae, in the order Proboscidea. The African elephant is classified as Loxodonta africana and the Asian elephant as Elephas maximus**