

# Desert Ecosystem



With high rates of evaporation and less than 10" of precipitation a year, deserts are a highly sensitive ecosystem. There are two types of deserts, hot and cold. Hot desert temperatures vary a great deal between day and night. Cold deserts will freeze in winter. Sparse vegetation requires special adaptations such as deep tap roots for underground water sources or very shallow roots that soak up rain quickly. Leaves are small, needle-shaped, or coated with a waxy substance to prevent water loss. Occasionally plants may die back during droughts to allow roots to survive. Soils though mineral rich, can be very fragile and subject to long term degradation and erosion through abuse. Desert animals adapt to the environment by avoiding the daytime heat, having body coverings that reduce evaporation, being active at night, and obtaining most of their water requirements from their food.

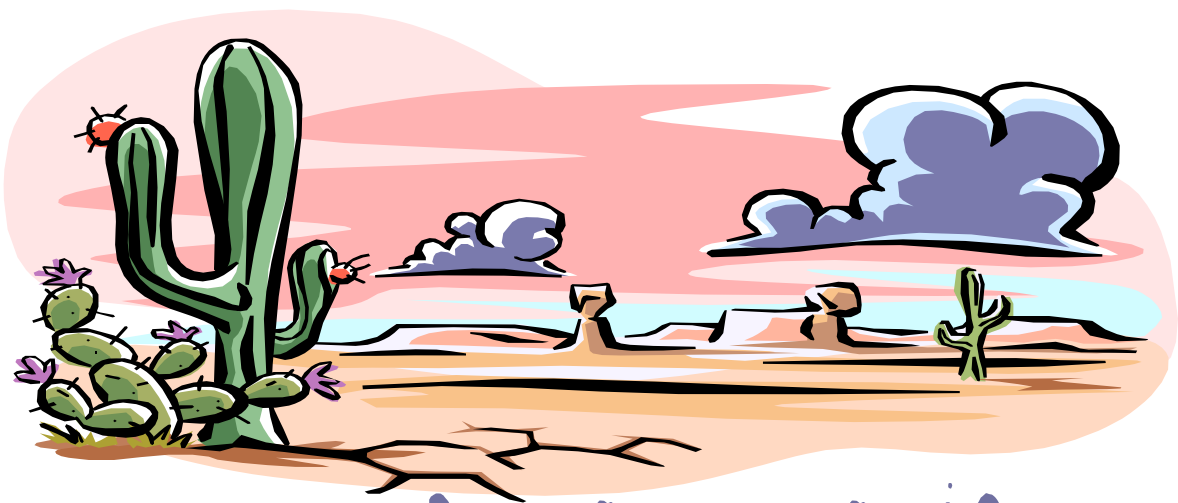
In the United States there are four recognized deserts. The Mohave (southern California and Nevada), the Sonoran (southern Arizona) and the Chihuahuan (southern New Mexico and extreme west Texas) are all hot deserts. The Great Basin Desert (Utah and Nevada) is a cold desert. These deserts are home to a variety of plants and animals.



# Desert Rivers (Riparian Areas)

## Fun Facts

- ✿ Riparian areas are lands along rivers, streams and lakes
- ✿ Because of the influence of water, the soils and vegetation are very different than the surrounding uplands of the desert
- ✿ Riparian areas are the major providers of habitat for threaten and endangered species of the desert west
- ✿ Cottonwood trees and willows are often found in riparian area



# Desert Uplands and Mesas

## Fun Facts

- ✿ Found in areas away from water sources
- ✿ Some plants found in upland areas include yucca, creosote, sagebrush, and cactus

## Fun Facts:

- 🌸 Desert bats feed mostly on insects
- 🌸 Bats are the only mammal that can truly fly
- 🌸 Bats use sound to navigate. (in science this is called echolocation similar to how dolphins and whales navigate)—some people call this “bat radar”



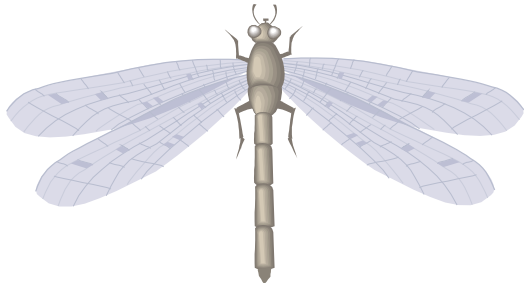
# Bat



# Pocket Gopher

## Fun Facts:

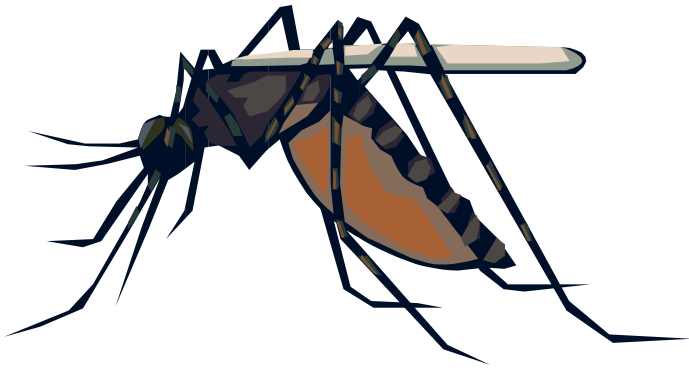
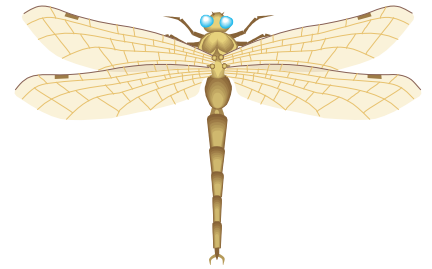
- 🌸 They are vegetarian—eating grasses, roots, weeds and shrubs
- 🌸 They get their water from the plants they eat
- 🌸 Hunted by badgers, coyotes, weasels, bobcats, snakes, owls, and hawks
- 🌸 The color of their coat depends on the local soil color
- 🌸 They use their large front teeth to dig burrows
- 🌸 On either side of their mouth is an external fur lined pouch to store food



# Dragonfly

## Fun Facts:

- ✿ Vibrant colors from red and pink to blue and green and many colors in-between
- ✿ Prey on mosquitoes and gnats
- ✿ Spends most of its life in the larva stage living under water—these larva look like fierce dragons
- ✿ Adult dragonflies live for several weeks to a month, when they mate and lay eggs in clean, clear water



# Mosquito

## Fun Facts:

- ✿ Only female mosquitoes drink blood; males get nutrients from the nectar of flowers
- ✿ Mosquitoes don't bite, they sting and then suck the blood
- ✿ They need water to breed, so you often find them near ponds, marshes, and humid areas or anywhere where there is standing water



# Great Horned Owl

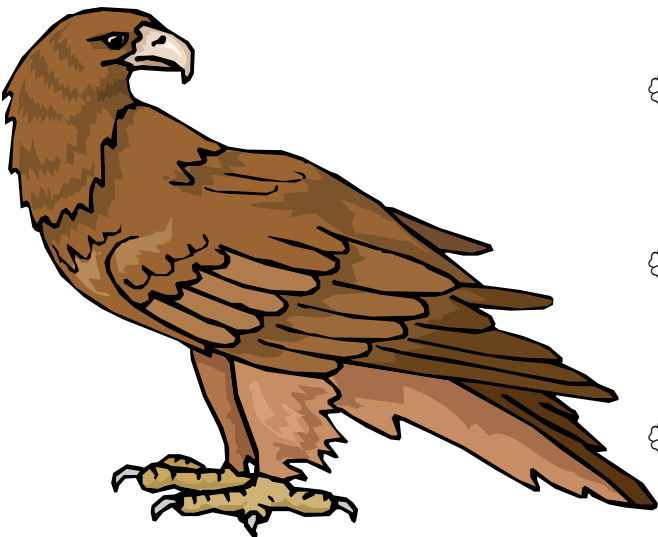
## Fun Facts:

- ❁ Live all over the United States, preferring open forest, desert canyons and marsh areas
- ❁ Prey on cottontails, squirrels, mice, pocket gophers, bats, snakes, beetles, grasshoppers and many other animals
- ❁ They grow to be 1½ to 2 feet tall and have a wingspan of 3 to 5 feet

# Golden Eagle

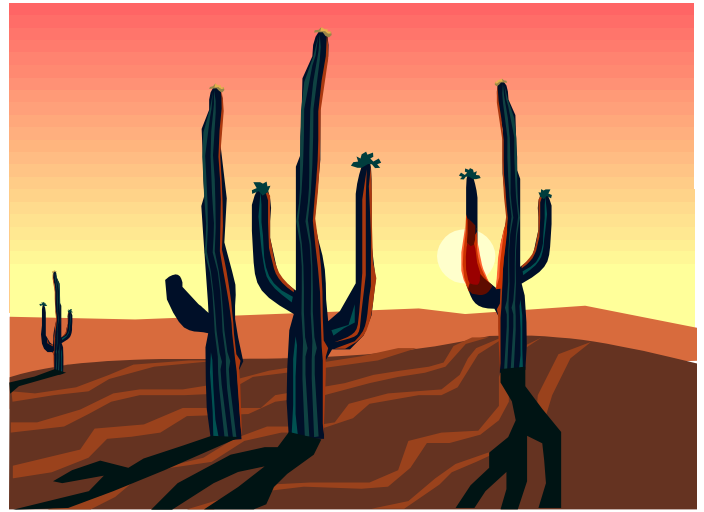
## Fun Facts:

- ❁ Large bird of prey found in western North America
- ❁ Hunts cottontail, ground squirrel, grouse, ducks and reptiles among others
- ❁ These birds have great eyesight, they can see their prey from over a mile away
- ❁ When it spots it's prey from the air, they can tuck their wings and swoop at speeds of 95 miles per

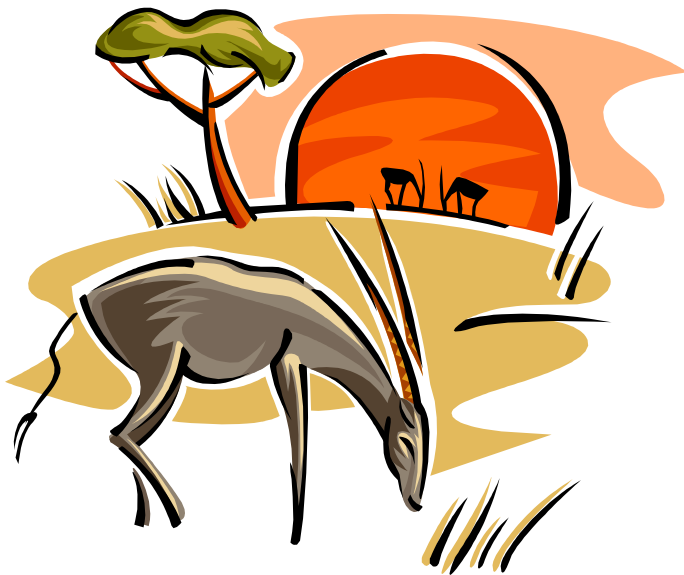


## Fun Facts:

- ✿ Cryptobiotic soils are living soils or bacteria, lichens and mosses
- ✿ These crusts stabilize soils, reducing erosion, which provides a more suitable environment for seeds to grow
- ✿ These crusts increase nutrients found in soils and help them hold water
- ✿ Crusts are black in color and have an irregular surface pattern
- ✿ Once disturbed it takes many years for these crusts to recover



## Desert Soil Crusts (Cryptobiotic Soils)



## Pronghorn Antelope

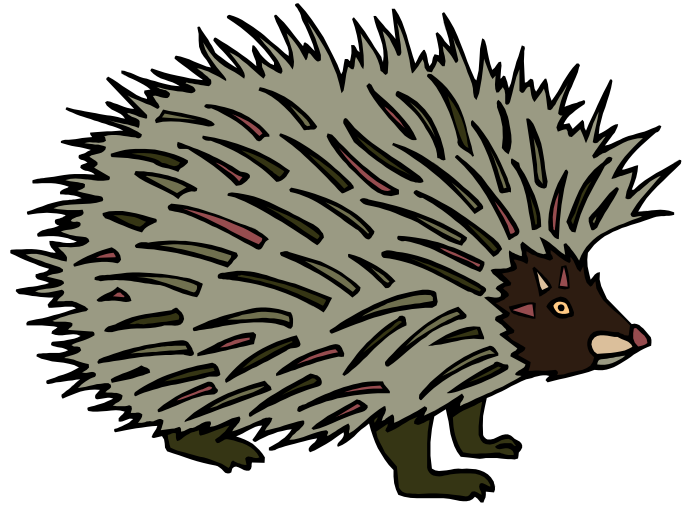
## Fun Facts

- ✿ Only animal in the world with branched horns (not antlers)
- ✿ Fastest animal in the Americas, running at speeds of 60 miles per hour
- ✿ Lives in open plains and semi deserts
- ✿ Feeds on shrubs (especially sagebrush), grasses, juniper and sometimes cactus
- ✿ Predators include bobcat, mountain lion, coyote, and golden eagle. Fawns (babies) are especially vulnerable

## Fun Facts:

- ✿ Quills used for defense.  
Porcupines drive their tails into attackers, where dozens of quills detach and embed into the predator
- ✿ It is a myth that they throw their quills
- ✿ Live in woodlands
- ✿ Strict vegetarians, feeding on leaves, twigs and green plants
- ✿ In winter they often feed on trees, chewing through the outer bark to eat the layer just below. This can damage and sometimes kill trees

# Porcupine

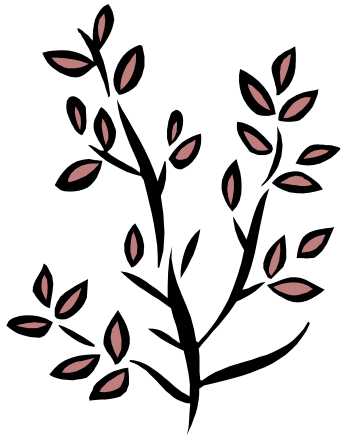


# Mountain Lion



## Fun Facts:

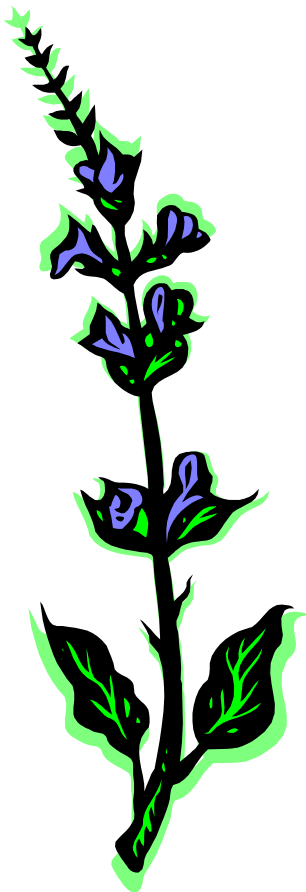
- ✿ Live in a variety of places including deserts, mountains and coastal forests
- ✿ These predators stalk their prey
- ✿ Prey includes deer, antelope, and small mammals
- ✿ These animals live and hunt alone
- ✿ Unlike other cats they are active during the day and night



# Sage Brush

## Fun Facts:

- ✿ Prefers dryer plains, mesas and rocky areas with deep soils
- ✿ Important food source for pronghorn antelope, mule, deer, sage grouse, and many small mammals
- ✿ Sagebrush ecosystems have the largest habitat range in the United States



## Fun Facts:

- ✿ Favorite flower among many types of bees who feed on its nectar and transport its pollen
- ✿ Many species are found throughout the desert southwest
- ✿ It is a herb that scatters its seeds by the wind

# Lupine

## Fun Facts:

- ☼ Flower is popular with birds and bees that are the plants major pollinators.
- ☼ Seeds are an important food source for birds and rodents
- ☼ Grows in sandy barren flats



# Sunflower



# Bee

## Fun Facts:

- ☼ One bee visits 50 to 1,000 flowers a day, sometimes more
- ☼ Bees use the sun as compass to navigate to and from flowers
- ☼ Foraging for nectar and pollen, bees also pollinate flowers helping plants make seeds

## Fun Facts:

- 🌸 Grows in rocky desert slopes and flats
- 🌸 Evergreen shrub or small tree. The leaves are sword shaped with sharp tips
- 🌸 Depends on yucca moths for pollination. These moths also feed on its leaves
- 🌸 There are at least 40 different types of Yucca plants



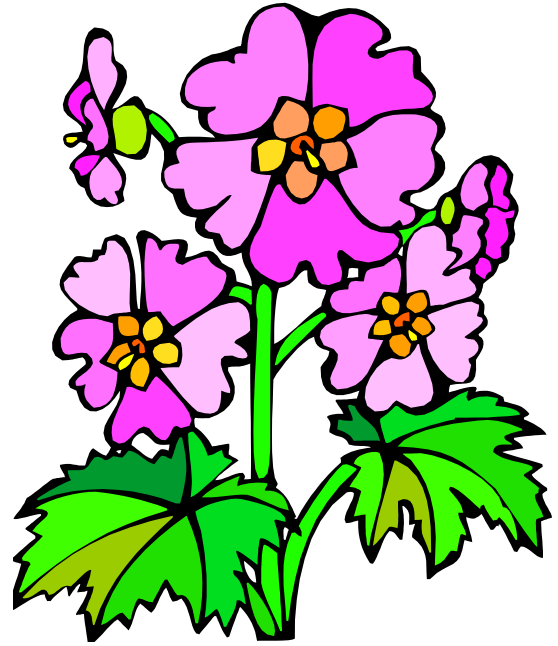
## Fun Facts:

- 🌸 Grows in sandy desert flats
- 🌸 Large cream colored fragrant flowers.
- 🌸 Bulbs can lay dormant underground for several years, waiting for enough moisture to grow

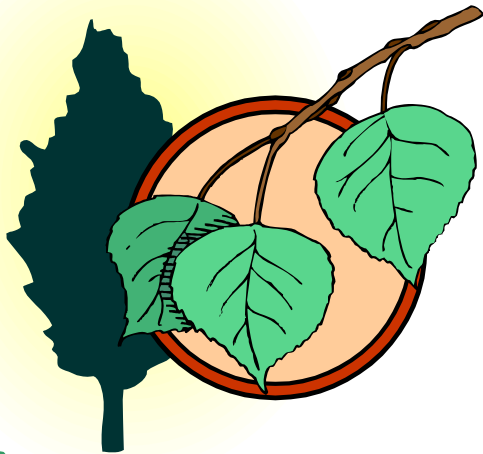
Desert Lily

## Fun Facts:

- ✿ Some species grow in wet areas while others grow in dry sandy areas
- ✿ Depending on species they may be pollinated by flies, moths and other insects



# Primrose



## Fun Facts:

- ✿ Known as the water tree. Its presence tells someone that water is nearby
- ✿ Provides food for deer, rabbits, other mammals, and caterpillars as well as nesting for a variety of birds

# Cottonwood Tree

# Cactus Wren

## Fun Facts:

- 🌸 Largest wren in the United States
- 🌸 Likes desert areas with taller cacti or hillsides and valleys with thorny plants that can support their bulky nests
- 🌸 Eats mostly insects



# Black-Chinned Hummingbird

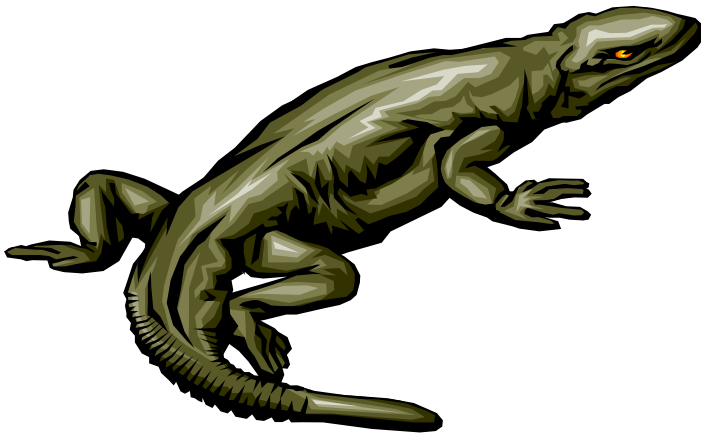


## Fun Facts:

- 🌸 Winters in Mexico and the desert southwest
- 🌸 Flower nectar is its main food source
- 🌸 Visits any long tubular flowers but it prefers red flowers
- 🌸 Prefers canyons or riparian flood plains
- 🌸 Snakes prey on their eggs and babies.

## Fun Facts:

- ✿ Prefers open flats and rocky areas
- ✿ Strictly vegetarian, eating fruits, leaves, buds and flowers
- ✿ When it senses danger it lodges itself between rocks to hide
- ✿ They are cold blooded. You will often find them basking in the sun



# Chuckwalla (lizard)

# Quail



## Fun Facts:

- ✿ Eats seeds, grasses, shrubs, trees and cacti
- ✿ They get water from the food they eat
- ✿ Live in brushy and thorny vegetations
- ✿ Lives in groups of up to 20 birds. The group is called a covey
- ✿ Hunted by bobcats, hawks, and snakes



# Butterflies

## Fun Facts:

- ✿ Many different butterflies migrate through the desert southwest every year
- ✿ They prefer woodlands, riparian areas, sagelands, and mesas
- ✿ As caterpillars they feed on leaves and as adult butterflies they feed on the nectar of flowers (and sometimes manure and dead animals)

## Fun Facts:

- ✿ Found throughout the western United States
- ✿ Move through various habitats from mountain forests to deserts floors
- ✿ Spring and summer they feed on leaves, herbs, and grasses and in the fall and winter they feed on browse (tree bark, shrub branches)
- ✿ Hunted by mountain lions, and bobcats



# Male Deer



# Sage Grouse

## Fun Facts:

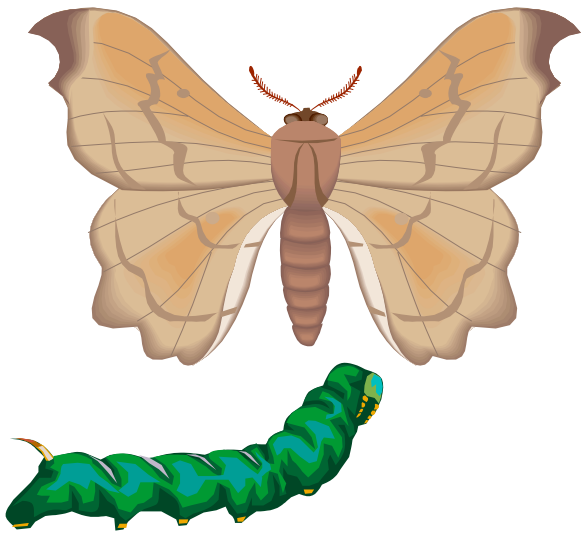
- ✿ Depends on a healthy sage grassland habitat, preferable mature 30 to 100 years old
- ✿ Sage is its primary source of food (especially in winter) and shelter
- ✿ They also eat small flowering plants during growing seasons
- ✿ Chicks need wet meadows and stream areas with lots of insects

## Fun Facts:

- ✿ Found in all types of habitats but they need an available water source
- ✿ It's name comes from its short bobbed tail
- ✿ A small but fierce predator, it can even bring down a deer. Typically it hunts smaller mammals like rabbits, ground squirrels and even an occasional quail

# Bob Cat





## Fun Facts:

- ✿ Active at night when it feeds on flower nectar
- ✿ Pollinator of many plants including cacti
- ✿ Yucca plants depend on specific moth species for pollination. Without these moths they could not reproduce

Moths

## Fun Facts:

- ✿ Eats green plants, nuts, fruits and seeds and it gets most of its water from the food it eats
- ✿ Average adult squirrel eats about 1 pound of food a week
- ✿ Chews on tree branches to sharpen teeth
- ✿ Lives in burrows often dug by other animals
- ✿ Hibernates during winter

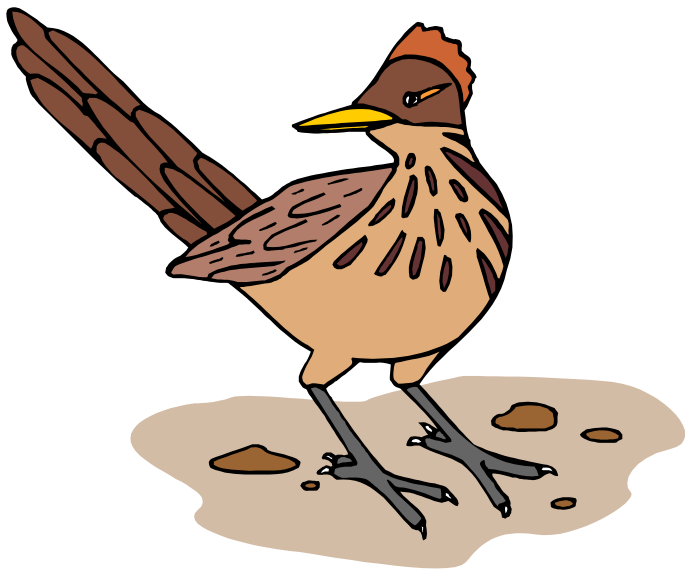
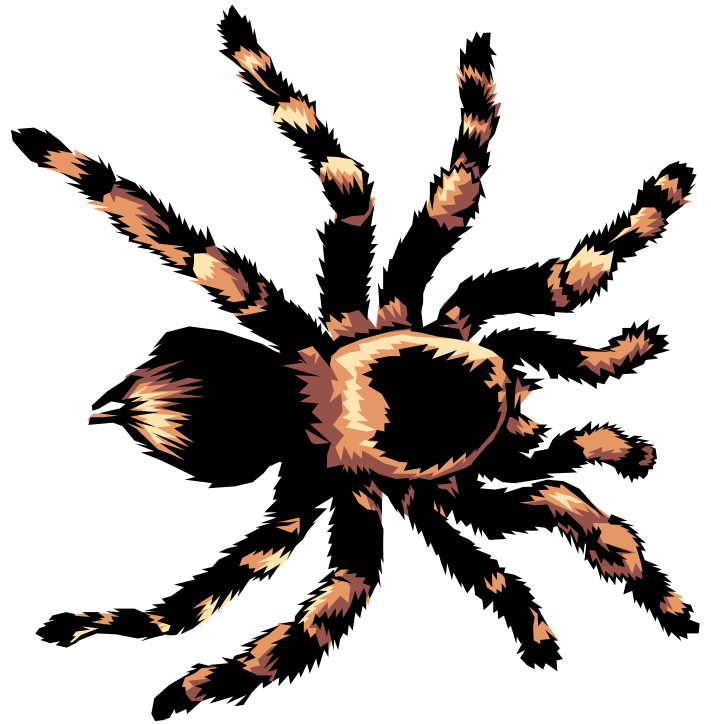
Ground Squirrel.



# Tarantula

## Fun Facts:

- ☼ Harmless to humans
- ☼ Member of the spider family, they have hairy bodies and come in many colors from tan to black.
- ☼ Live in dry areas under rocks and in burrows
- ☼ Active at night, hunting spiders, insects, and small lizards



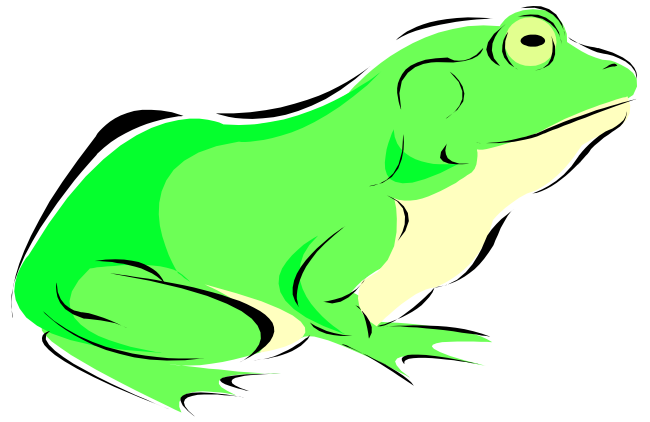
## Fun Facts:

- ☼ It lives in open flat or rolling terrain with scattered brush
- ☼ Feeds on insects, lizards, snakes, rodents and other birds. It can even prey on rattlesnakes
- ☼ Because of its large body it has difficulty flying...it prefers running or walking

# Roadrunner

## Fun Facts:

- ✿ Found across the lower 48 states
- ✿ Lives in areas with permanent fresh water, like rivers, marshes and ponds.
- ✿ They eat insects, spiders, and small mammals



# Bullfrog



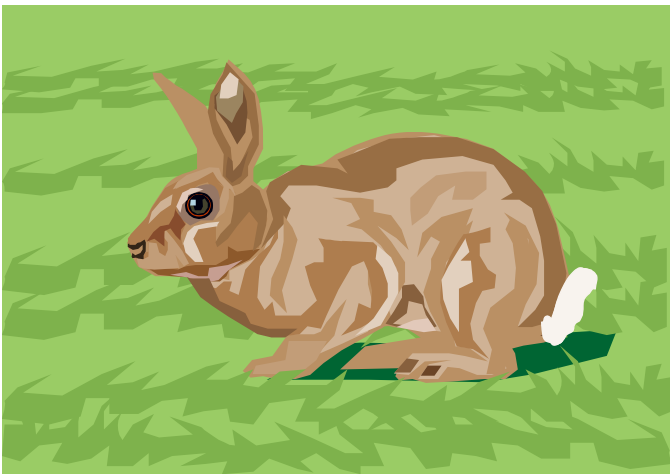
People



## Fun Facts

- ✿ It is a lizard and a member of the reptile family
- ✿ One of only two venomous (poisonous) lizards
- ✿ Active at night when it hunts for mammals birds and eggs
- ✿ Lives in gravelly sandy areas of the desert, under rocks or in the burrows of other animals

# Gila Monster



## Fun Facts:

- ✿ Lives in dry desert grasslands and shrublands, riparian areas, and pinyon-juniper forest
- ✿ 90% of their diet is grass but they also eat shrubs, cacti and other plants
- ✿ They get most of their water from the plants they eat
- ✿ Active at dawn, dusk and nighttime when temperatures are cooler
- ✿ Preyed on by golden eagles, great horned owls, coyotes, bobcats, and badgers

# Desert Cottontail

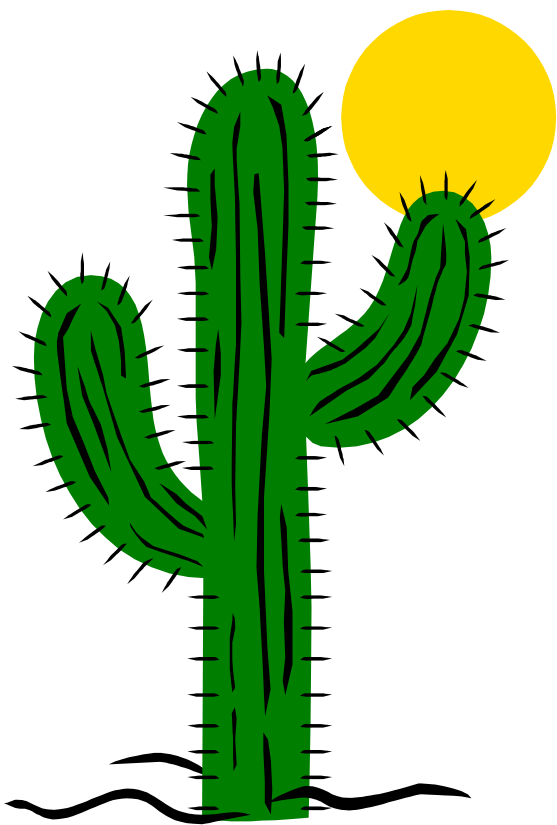
## Fun Facts:

- 🌸 Pollinated by bees
- 🌸 Covered in sharp spines
- 🌸 Yellow or red flowers grow at the top of this cactus
- 🌸 Pulp (or flesh) of this cactus is used to make candy—that is why it is sometimes called the “Candy Cactus”



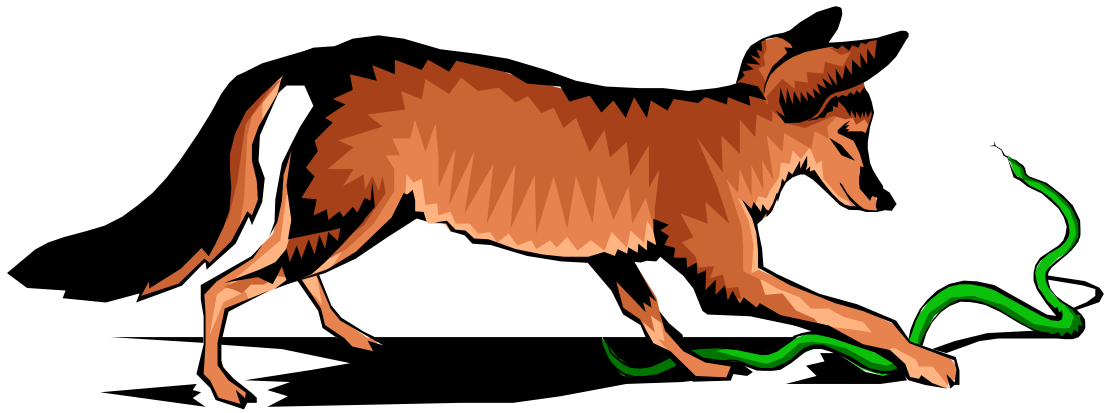
# Barrel Cactus

## Organ Pipe Cactus



## Fun Facts:

- 🌸 Pollinated by bats and hummingbirds
- 🌸 Flowers are lavender-white
- 🌸 Second largest cactus in the United States—found only in southwestern Arizona
- 🌸 Native Americans use the fruit as a food source



# Coyote

## Fun Facts:

- 🌸 It is an omnivore—it eats plants and animals including insects, lizards, snakes, birds, rodents, rabbits, fruits, nuts, and grasses
- 🌸 It can run as fast as 40 miles per hour
- 🌸 They are famous for their howl, but you can often hear them barking too



## Fun Facts:

- 🌸 It preys on small rodents—gophers, squirrels, and rabbits among others
- 🌸 16 different species found in the desert
- 🌸 They are pit vipers—meaning they are venomous (poisonous) and their “pits” sense the heat of their prey
- 🌸 Rattles to warn you of its presence
- 🌸 Hibernates in the winter

# Rattlesnake