National Park Service
U.S. Department of the Interior

Zion National Park

What's My Adaptation
Activity Materials

NPS/CHRISTOPHER GEZON

ADAPTS

Animals
Depend on
Activities and
Parts
To
Survive

Beaver

Mule Deer

Mule Deer

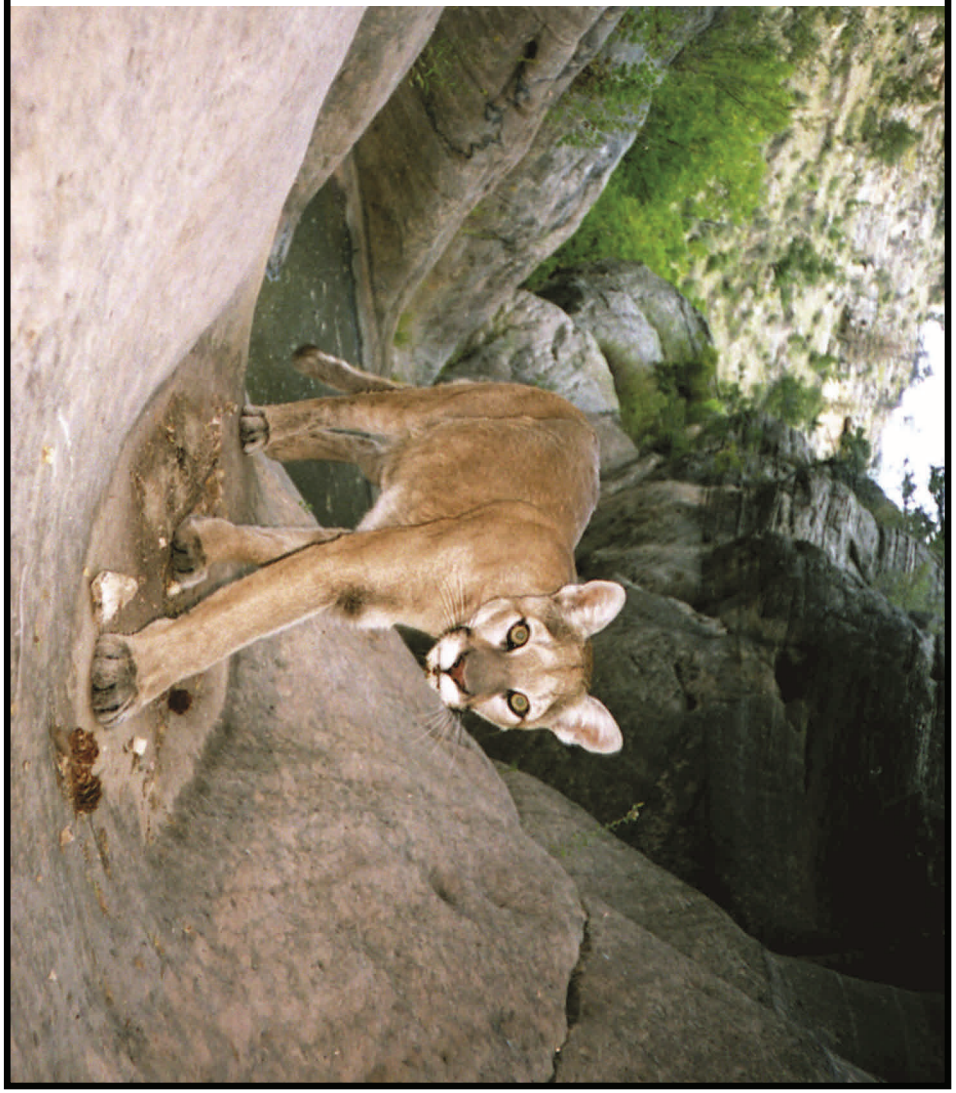
- This mammal has very large ears that can rotate independently.
- A multi-compartment stomach acts like a series of storage bins allowing the deer to eat first and digest later.
- Large, hoofed feet can dig for water.

Beaver

- This mammal has extra thick fur to help keep it warm in cold water.
- The large, bare, and flat tail acts like a rudder to steer while swimming.
- Special ear and nose muscles close these openings when the beaver is under water.

Canyon Treefrog

Cougar



Cougar

- This carnivore uses large, sharp canine teeth for killing prey.
- Muscular hind legs are longer than the front legs giving these mammals great jumping ability– more than 20 feet in a single bound!
- Broad paws with retractable claws help cougars sneak up on their prey.

Canyon Treefrog

- Like a chameleon, a treefrog's changeable pigmentation (skin color) helps the frog hide in different environments.
- Special hydration patches on the frogs thighs help this amphibian "drink" water while it is resting.
- Toe pads act like suction cups to help the frog stick to wet surfaces.

Collared Lizard

Coyote

Coyote

- Coyotes adjust their hunting style to what food is available. They are omnivores, that is, they eat both meat and plants.
- A long snout and moist nose help give the coyote an excellent sense of smell.
- The fur of this mammal grows thicker in winter to keep the coyote warm.

Collared Lizard

- Lizards (and other reptiles) in Zion hibernate in winter to avoid the cold and lack of food.
- A long, sticky tongue helps this lizard catch food.
- Scales help keep the lizard from loosing too much water in the summer heat.

Western Rattlesnake

Mexican Spotted Owl

Mexican Spotted Owl

- This bird is nocturnal; it prefers to be active at night.
- Large eyes help give this bird great night vision.
- Talons on the feet and a sharp, curved beak help kill and eat prey.

Western Rattlesnake

- This reptile hibernates to avoid the winter cold and lack of food.
- The snake's rattle, made of dead scales, protects the snake by warning predators.
- A very flexible jaw allows the snake to swallow food much larger than its mouth.

Virgin River Spinedace

Arizona Toad

Arizona Toad

- The toad's short, muscular legs are great for hopping.
- Large glands behind the eyes and wart-like bumps contain a bad tasting substance to repel predators.
- Toads (like other amphibians) undergo metamorphosis, living the first part of life as a tadpole underwater with gills like a fish.

Virgin River Spinedace

- Fish have gills that are used for breathing under water.
- A torpedo-shaped body is streamlined and good for swimming in fast currents or at high speed.
- Large eyes are helpful for finding food.

Desert Bighorn

Kangaroo Rat

Kangaroo Rat

- A kangaroo rat's hind feet are large with hairy soles to help them jump in loose sand and soil.
- Being nocturnal (active at night) allows this mammal to avoid water loss from sun and heat.
- Cheek pouches store seeds found while foraging, like shopping bags.

Desert Bighorn

- Desert bighorn are smaller and lighter colored than bighorn that live in greener places.
- Bighorn pant and sweat to cool down.
- The bighorn's hooves are sharp-edged, elastic and concave (cupped) which aid in climbing steep, rocky surfaces.

Roadrunner

California Condor

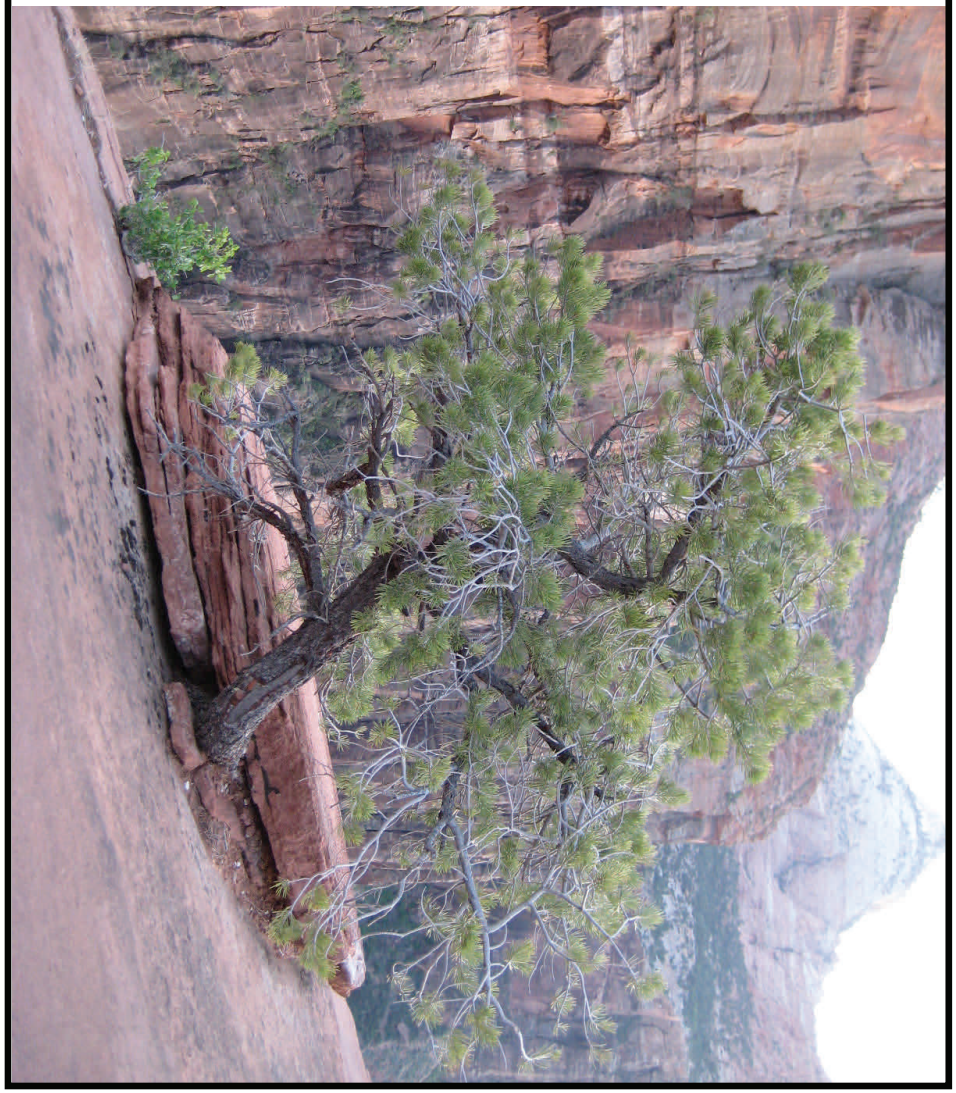
California Condor

- These birds are scavengers, and only eat things that are dead.
- The bare head keeps the bird cleaner since it often sticks its head inside carcasses while eating.
- A large wingspan (over nine feet) helps condors soar on warm air currents.

Roadrunner

- This bird can run up to 17 miles per hour!
- In the morning, the bird fluffs its feathers to expose its black skin underneath to absorb the sunlight.
- The roadrunner gets most of its water from the meat it eats.

Pinyon Pine



Tarantula

Tarantula

- These spiders live in burrows up to two feet deep.
- Tarantulas have no teeth so they inject venom to liquefy the prey's insides and then suck them out.
- Very sensitive hairs are used for touch, the tarantula's strongest sense.

Pinyon Pine

- This conifer has short, waxy needles help prevent water loss.
- Large root systems with deep taproots (a large, main root) help get water in dry climates.
- The pinyon's nutritious nuts are favorites of birds and mammals. This helps move the seeds.

Fremont Cottonwood

Utah Juniper

Utah Juniper

- Juniper seedlings (young plants) grow very prickly leaves to protect them from being eaten.
- "Self-pruning" (shutting off water flow to certain branches and allowing them to die) conserves water in droughts.
- This conifer has tiny, scale-like leaves that overlap and help moisture from being lost into the air.

Fremont Cottonwood

- Fluffy "cotton" seeds from this deciduous tree are spread by the wind.
- The seeds require moist soil to germinate making washes and riparian areas perfect places to grow.
- New tree trunks and branches can sprout from stumps and exposed roots.

Fourwing Saltbush

Prickly Pear

Prickly Pear

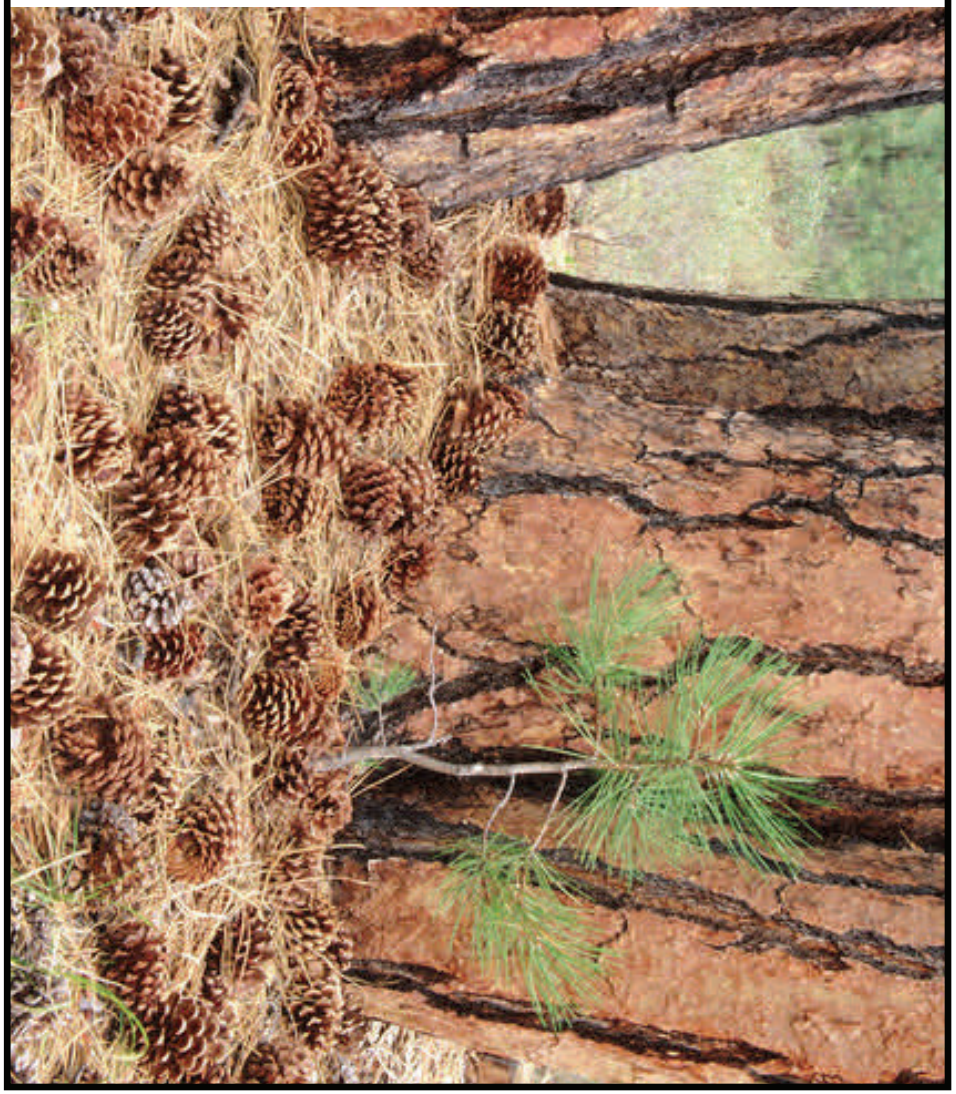
- The pads (which look like leaves but are really stems) store water the plant can use in times of drought.
- The pads are oriented vertically to shade each other from the sun.
- Rootlets (tiny roots) grow within hours of rainfall to quickly absorb moisture.

Fourwing Saltbush

- Tiny pouches on the leaf surface store salt absorbed from the soil. When these pouches erupt, salt spreads onto the leaf surface, protecting the plant from freezing in the cold.
- The salt on the leaves helps protect the plant from being eaten.
- The spiny twigs of this shrub also help protect it from being eaten.

Paintbrush

Ponderosa Pine



Ponderosa Pine

- The thick bark protects mature trees from fire.
- Seedlings grow taproots very quickly helping this conifer survive dry conditions.
- Narrow needles have a smaller surface area which reduces water loss.

Paintbrush

- Colorful red bracts surround the green flowers and attract pollinators like hummingbirds and butterflies.
- These plants are partial root parasites, taking water from other plants such as grasses.
- Many flowers grow on one plant.

Sacred Datura

Golden Columbine

Golden Columbine

- The nectar is contained at end of very long petals. Only animals with very long tongues like hawk moths and hummingbirds can reach it.
- The flower's bright color is attractive to pollinators.
- These plants can bloom multiple times in spring and summer, especially after rain.

Sacred Datura

- The large flowers open at night to avoid the heat of day and to attract night pollinators such as moths.
- The entire plant is poisonous which protects it from being eaten by animals.
- The flower's tube shape ensures moths are covered in pollen when they take out nectar.

Claretcup

Yucca

Yucca

- The thick, succulent leaves store water.
- The leave's curved shape directs rainwater towards the plant's roots.
- Some yucca species have short flower stalks which are protected from being eaten by the sharp leaves.

Claretcup

- This is often the first cactus to bloom in spring.
- The many spines both shade the plant and protect it from being eaten.
- The stems grow in clumps to reduce surface area exposed to the drying desert wind and sun.

Coyote Gourd

Rabbitbrush

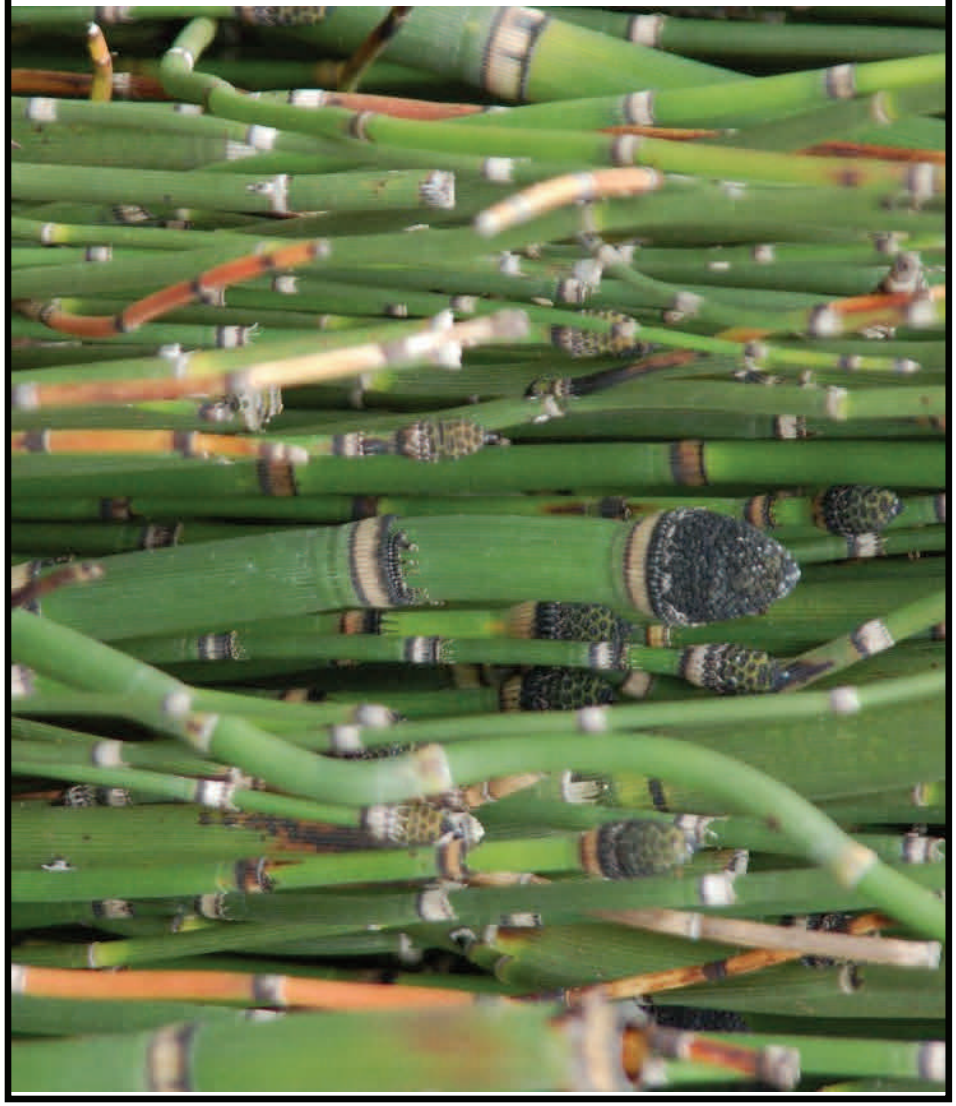
Rabbitbrush

- The plant is deciduous, meaning it looses its leaves in winter.
- The leaves and stems are covered with a felt-like layer that insulates in winter and conserves water in summer.
- The golden-colored flowers bloom in early fall.

Coyote Gourd

- This plant is a vine with tendrils (tiny, twisting stem-like parts) that help it grip and climb.
- The fruit pulp contains toxic, bitter chemicals to protect it from being eaten.
- The hairy leaves help reduce water loss from wind and sun.

Scouring Rush



Maidenhair Fern

Maidenhair Fern

- Ferns often have a special underground stem called a rhizome that stores extra food for the plant.
- Stiff stalks allow leaves to be held off the moist ground this plant occupies.
- Ferns reproduce with tiny spores (like seeds) blown by the wind.

Scouring Rush

- The hollow stems are jointed (reinforced) helping the plant stand in the damp soil it occupies.
- The cone used for reproduction is protected from the wet ground by growing at the top of the plant.
- This plant has no leaves and photosynthesizes inside its green stem.