

Charting Diversity

Study Units

Unit 2: Life in the Forest

Supplemental Information

See *Unit 2* background information about habitat needs and forest relationships .

Teaching Suggestions

This activity has been modified to focus on the diversity of Iowa forest animals. Follow the activity directions, but label the bags locomotion, body covering, and diet. Give each pair or group a copy of the page *Iowa Forest Diversity*. Have them cut apart the squares and put them in the proper bag. Suggested answers are provided (*Iowa Forest Diversity Solutions*).

If you wish to do this activity highlighting the diversity and adaptations of plants, categories with word lists are provided on the *Iowa Plant Diversity* sheet. Students will need to research to find a plant that fits the characteristics chosen from the bags. This is a good enrichment activity for older students.

Evaluation

Have students invent a plant or animal with a name, specific characteristics, and habitat needs. Examples: mammal, flies, eats eggs, nests in a tree in a forest, name is gaflipple; aquatic plant, produces seeds that are thrown, grows in deep ponds, name is ackachooweed. What adaptations do their invented animals have? Similar activities include “Adaptation Artistry” (*Project WILD*) and “Fashion a Fish” (*WILD Aquatic*).

Student Materials

Iowa Forest Diversity

Teacher Aids

Iowa Forest Diversity Solutions

Iowa Plant Diversity

Iowa Plant Diversity Solutions

See list of Iowa forest plants and animals in “Web of Life” activity

Additional Materials

Boon, B. and H. Groe. 1990. *Nature’s Heartland: Native Plant Communities of the Great Plains*. Ames: Iowa State University Press.

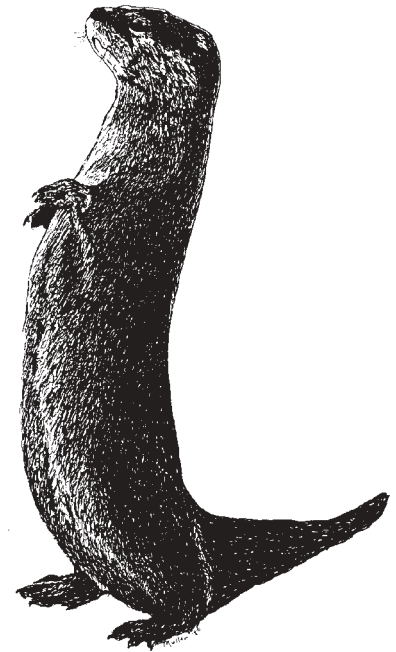
Project WILD Aquatic K-12 Curriculum & Activity Guide. 2000. Houston: Council for Environmental Education. (available through workshops from Iowa DNR)

Project WILD K-12 Curriculum & Activity Guide. 2000. Houston: Council for Environmental Education. (available through workshops from Iowa DNR)

Iowa Forest Diversity

Directions: Label three paper bags locomotion, body covering, and diet. Copy and cut the squares below and put them in the proper bag. Draw one square from each bag. Research to see if these characteristics describe an Iowa forest animal. Not all combinations will match an Iowa animal.

locomotion	body covering	diet
crawls on many legs	feathers	small mammals
flies with 2 wings	fur	insects
on all 6 legs	wet, slimy skin	seeds invertebrates
on all 4 legs	scales	insects
on its belly	exoskeleton	things in soil
hops	shell	rodents
flies with 4 wings		small birds
slime trail		dead things (carrion)
		plants
		mix of plants & animals
		mostly animals occasionally plants
		blood plant juices
		nectar pollen



Iowa Forest Diversity Solutions

Directions: Not all combinations will lead students to a real Iowa animal. One or more characteristics may need to be eliminated and others picked to replace them. Many combinations that yield answers are listed. You may refer to the list of forest animals found in the “Web of Life” activity.

locomotion	body covering	diet	Iowa forest animal
on all 4 legs	fur	mostly animals occasional plant	mink, shrews, gray & red fox, bobcat, coyote, all weasels
flies with 2 wings	exoskeleton	blood, plant juices	mosquito
flies with 2 wings	exoskeleton	dead things (carrion)	flies
on 6 legs	exoskeleton	plants	bark beetle, ant
flies with 4 wings	exoskeleton	plant nectar, pollen	moths, butterflies
crawls on many legs	exoskeleton	plants	caterpillars, sowbug
flies with 2 wings	feathers	small mammals	shrike, red-tailed hawk, red-shouldered hawk, all owls
flies with 2 wings	fur	insects	all bats
flies with 2 wings	feathers	seeds	chickadee, cardinal, wild turkey, ruffed grouse
hops	wet, slimy skin	invertebrates, insects	gray treefrog, American toad
on its belly	wet, slimy skin	things in the soil	earthworm
on its belly	scales	rodents	timber rattlesnake, milk snake, bullsnake, fox snake
flies with 2 wings	feathers	insects	woodpeckers, brown creeper, house wren, bluebirds
flies with 2 wings	feathers	small mammals & birds	barred, screech, & great-horned owls
flies with 2 wings	feathers	small birds & mammals	sharp-shinned & Cooper’s hawks
flies with 2 wings	feathers	dead things (carrion)	red-tailed hawk, crow, turkey vulture, bald eagle
on all 4 legs	fur	plants	white-tail deer, woodchuck, squirrels, mice, beaver, muskrat
on all 4 legs	fur	mix of plants & animals	raccoon, opossum, skunk
slime trail	shell	plants	land snail

Iowa Plant Diversity

Directions: Use this as a starting point for exploring Iowa plant diversity. Students need to decide which categories to use and then proceed as detailed in the activity. Not all combinations will lead to a real plant. One or more characteristics will need to be eliminated and others chosen from the same category. Refer to the list of Iowa forest plants in the “Web of Life” activity.

where plant lives

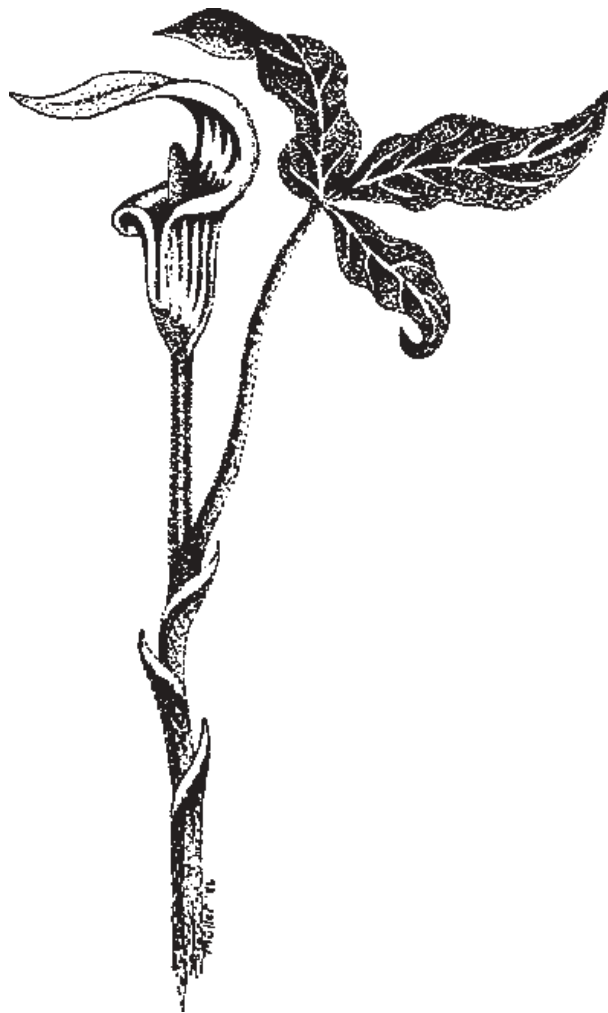
- on top of the water
- bottom of pond or lake
- forest
- damp places
- field/meadow
- lawn

how plant reproduces

- seeds
- spores
- runners

how plant protects itself

- bad taste
- makes skin itch
- has thorns or spines
- poisonous to eat
- thick bark



plant uses

- eat fruit
- use to build with
- use to heat house
- medicine
- shade
- eat leaves
- beautify yard

how seeds travel

- tasty fruit
- seeds float
- carried by wind
- seeds jump
- seedpods explode
- hitchhikers
- seeds drop

Iowa Plant Diversity Solutions

Directions: Not all combinations will lead students to a real Iowa plant. One or more characteristics may need to be eliminated and others picked to replace them. Some combinations that yield answers are listed. You may refer to the list of forest plants found in the “Web of Life” activity.

where plant lives	how plant reproduces	how plant protects itself	plant uses	how seeds travel	Iowa forest plant
on top of the water	seeds/runners		build with; parts of some are edible	seeds float carried by wind/hitchhikers	cattails, duckweed, arrowhead, water lilies
forest	spores		some species can eat leaves	carried by wind seedpods explode	ferns
forest	seeds	makes skin itch	shade	seeds drop/ carried by wind	nettles, poison ivy
forest	seeds	has thorns or spines	eat fruit	tasty fruit	raspberry, gooseberry, wild rose
forest	seeds	thick bark	build with heat house shade beautify yard	seeds drop	oak & hickory trees
damp places	seeds/runners		medicine build with shade beautify yard	carried by wind	willow, birch, & cottonwood trees