

Name _____
Date _____
Block _____

Succession and Biodiversity

Directions: The “Upland Plant Cover Stages in Missouri” and “Plants and Animals Associated with Upland Plant Cover Stages in Missouri” handouts provide you with a summary of changes that are likely to take place in the plant and animal communities in an upland site laid bare by cultivation and left undisturbed for a substantial number of years. After studying these handouts, answer the following questions that address this process of succession.

1. Define:

Succession _____

Biodiversity _____

2. In the first stage of succession, few wildlife species are found (little biodiversity). Why?

3. Which kind of plants dominate the early stages of succession, **annuals** or **perennials**?

Why do you think this is the case? (Hint: Annual plants, which are relatively small, usually produce an abundance of seeds that germinate rapidly under the right conditions of moisture and warmth. Perennial plants, which are normally larger than annuals, usually produce fewer seeds, which do not ordinarily germinate as rapidly as the seeds from annual plants.)

4. As succession progresses, **perennial** plants begin to dominate **annual** plants with the eventual elimination of the annuals. Explain why you think this condition occurs.

5. Which 2 stages most closely describe a prairie ecosystem?

How would you define a prairie?

6. According to the diagram, which stage exhibits the greatest biodiversity?

7. If you wished to manage your land for turkey, squirrels and deer, which two stages would be best?

a. _____

b. _____

8. Based on the handouts, which stage would you try to manage if you wanted to promote the greatest variety of bird species?

Identify **three** birds listed for this stage. Also, identify one kind of food eaten by each bird. Assume a variety of insects inhabit this ecosystem.

a. _____

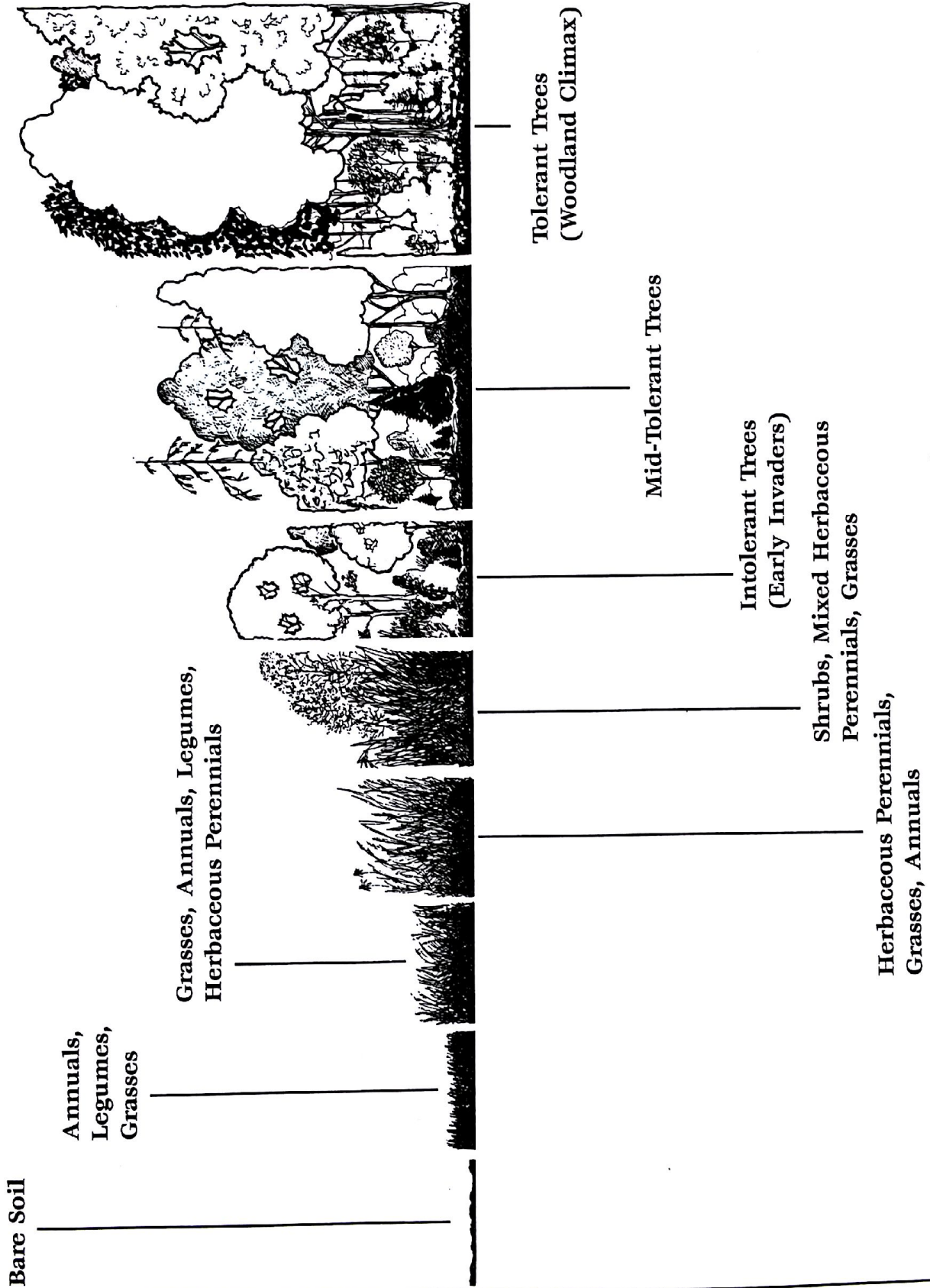
b. _____

c. _____


9. Of all the stages, which would you find most interesting to visit?

Explain your answer. _____

Upland Plant Cover Stages in Missouri



Plants and Animals Associated with Upland Plant Cover Stages in Missouri


 bare soil
 field mouse
 horned lark
 mole



**Annuals, Legumes,
Grasses**

bracted plantain
 crotons
 dropseed
 foxtail
 lespedeza
 panicum
 partridge pea
 pigweed
 poverty grass
 ragweed
 smartweed
 tick trefoil
 trailing bean
 coyote
 dove
 grasshopper
 horned lark
 killdeer
 meadowlark
 mice
 quail
 rabbit
 rodents



**Grasses, Annuals,
Legumes,
Herbaceous
Perennials**
 annuals
 asters

bedstraw
 bluegrass
 bluestem
 bull nettle
 clovers
 dropseed
 goldenrod
 Indian grass
 lespedeza
 panicum
 sedge
 meadowlark
 pheasant
 prairie chicken
 quail
 rabbit
 rodents
 skunk
 woodchuck
 yellowthroat
 black snake
 coyote
 dickcissel
 dove
 field sparrow
 fox
 horned lark
 jack rabbit
 marsh hawk



**Herbaceous
Perennials, Grasses,
Annuals**
 bluestems
 broomsedge
 buttonweed
 cinquefoil

coneflower
 dewberry
 dropseed
 hop clover
 ironweed
 lead plant
 milkweed
 morning glory
 primrose
 rosa sp.
 spurge
 switchgrass
 wild indigo
 badger
 black snake
 coyote
 dickcissel
 dove
 field sparrow
 fox
 gopher frog
 grasshoppers
 ground squirrel
 horned lark
 jack rabbit
 marsh hawk
 meadowlark
 pheasant
 prairie chicken
 quail
 rabbit
 rodents
 skunk
 woodchuck
 yellowthroat



**Shrubs, Mixed
herbaceous
Perennials, Grasses**

aster
 bergamot
 bittersweet
 blackberry
 bluegrass
 bluestem
 coralberry
 cordgrass
 dogbane
 dogwood
 elderberry
 fleabane
 grape
 hazel
 Indian grass
 Joe Pye weed
 lead plant
 needle grass
 poison ivy
 prickly ash
 rosa sp.
 St. John's-wort
 sumac
 sunflower
 viburnums
 wild indigo
 assassin bug
 black snake
 bluejay
 cardinal
 catbird
 chat

chipping sparrow
 coyote
 damsel bug
 dickcissel
 dove
 field sparrow
 fox
 garter snake
 goldfinch
 ground squirrel
 horned lark
 indigo bunting
 jack rabbit
 king snake
 marsh hawk
 meadowlark
 mockingbird
 pheasant
 prairie chicken
 quail
 rabbit
 rodents
 short-eared owl
 skunk
 towhee
 upland sandpiper
 woodcock
 woodchuck
 yellowthroat



**Interant Trees
 (Early Invaders)**

American elm
 bitternut hickory
 blackjack oak
 black cherry
 hackberry
 hawthorn
 honeylocust
 black locust
 mockernut hickory

Osage orange
 persimmon
 post oak
 eastern red cedar
 redbud
 river birch
 shagbark hickory
 shortleaf pine
 slippery elm
 sassafras
 silver maple
 sycamore
 black walnut
 white ash
 willow
 bluejay
 brown thrasher
 cardinal
 chipping sparrow
 fox
 fox sparrow
 mink
 opossum
 quail
 rabbit
 rodents
 ruffed grouse
 skunk
 squirrels
 towhee
 tree sparrow
 woodcock
 woodchuck



Mid-Tolerant Trees

bitternut hickory
 blackjack oak
 black oak

bur oak
 chinkapin oak
 dogwood
 hackberry
 mulberry
 pignut hickory
 post oak
 red elm
 redbud
 scarlet oak
 serviceberry
 sagbark hickory
 shortleaf pine
 black walnut
 white oak
 winged elm
 bark beetles
 bluejay
 crows
 deer
 gray fox
 hawks
 locust borers
 owls
 ruffed grouse
 squirrels
 turkey
 warblers
 weasel
 woodchuck



**Tolerant Trees
 (Woodland Climax)**

basswood

beech
 black oak
 buckeye
 chinkapin oak
 dogwood
 ironwood
 pignut hickory
 red maple
 red oak
 redbud
 scarlet oak
 shagbark hickory
 shingle oak
 sugar maple
 sugarberry
 yellow-poplar
 white ash
 white oak
 bear
 chipmunk
 crows
 cuckoo
 deer
 flycatchers
 gray fox
 nuthatches
 opossum
 owls
 raccoon
 red-eyed vireo
 ruffed grouse
 squirrels
 turkey
 warblers
 weasel
 wood thrush
 woodpeckers