Part 8

Puzzles

Definitions

and

Further Research

Vocabulary Cards

wetland	Land that is sometimes or always covered with shallow water
watershed	An area of land that drains into stream or river system
estuary	A body of water where freshwater flows into seawater:
salt marsh	A vegetated area on the edge of a bay or estuary; greatly affected by ocean tides.
runoff	Water that flows off the land
sedimentation	Settling of particles in a body of water
erosion	Wearing away of soil or rocks by physical or chemical processes
mudflats	Flat areas of muddy soil kept wet by the rising and falling of ocean tides
brackish	Partly salty water

Vocabulary Cards

ecosystem	A place where living and non-living things interact.
adaptation	Special feature that allows a plant or animal to survive in a particular environment
herbivore	An animal that eats plants. Examples are rabbits and deer.
carnivore	An animal that eats other animals. Examples are bobcats and coyotes.
predator	An animal that hunts other animals for food. Examples are owls and bobcats.
scavenger	Animals that feed on dead animals.
nocturnal	Animals that come out at night to seek food. Examples are bats and owls.
camouflage	The use of colors or patterns to blend into the environment.

Vocabulary Cards

biodiversity	The variety of living organisms, including both plants and animals.
invertebrate	An animal with no backbone. Examples are insects, worms and crabs.
exoskeleton	The hard outer covering on many invertebrates, such as crabs and lobsters.
decompose	To decay or break down into simple organic substances.
detritus	Dead or decaying matter
plankton	Microscopic plants and animals that drift with ocean currents.
food chain	The transfer of energy within an ecosystem, as one animal eats another.
migration	The journey to another region, as the seasons change.
larva	The immature young of species such as insects.

Review your knowledge

Connect words with their definitions:

A place where salty and fresh water mix	detritus
A plant adapted to live in salty water	estuary
Special feature of an animal that enables it to survive	precipitation
Home for a plant or animal	halophyte
Dead or decaying matter	adaptation
Water vapor cools to form clouds	brackish
Rainfall	habitat
Animal droppings	photosynthesis
Cloudiness of water	carnivores
Settling of particles in water	sedimentation
Ancient trash heaps	scat
Partly salty water	condensation
meat eaters	turbidity
Process by which plants make their own food	middens

What Scientists study the lagoons?

Use a reference book or the internet to match these scientists to the subjects of their research.

ornithologist	insects
paleontologist	rocks
lepidopterist	birds
archeologist	fossils
entomologist	ancient human artifacts
hydrologist	plants
ichthyologist	reptiles & amphibians
geologist	butterflies
botanist	water quality
oceanographer	fish
meteorologist	environment
ecologist	weather
microbiologist	oceans
herpetologist	microscopic life

Word Search

Find these words: across, up and down , or diagonally:

middens	archeologist	turbidity	wetlands
estuary	precipitation	lagoon	watershed
tide	sedimentation	ocean	cattail
marsh	erosion	egret	heron
salt	adaptation	road	pollution
sage	ecosystem	scat	habitat

v c w a t e r s h e d h k s j m z a
h t l i m l o c t w b o e e a w d d
q e a c g i a n m e i a u d q l r i
p g r d s v d l i t u r b i d i t y
r r t o a a m d l l i k n m a r s h
e e b u n p y k e a p d t e p c g a
c t x k l j t r i n h t e n a y o b
i s j g a e i a w d s c e t q j o i
p u o y g q n f t s e m s a l w d t
i z t d o k m v z i c a t t a i l a
t e c p o l l u t i o n u i p s o t
a v m u n q c l o r l n a o v a d y
t g u e c o s y s t e m r n c g y c
i c e o p s m o b e o j y i k e b e
o v c k a y o s h a s n f z b o a m
n v s a r c h e o l o g i s t x p n

Research a bird or animal of the lagoon:

Common name:_____

Scientific name:_____

Sketch your animal or bird:	Sketch a habitat:

Eating habits:

What does it eat?_____

_____

Is it a herbivore, carnivore or omnivore? _____

How does it obtain food? _____

Habitat:

Where would this animal live? _____

_____

What kind of nest or home does it require?_____

_____

Adaptations:

How does it protect itself?_____

_____

What adaptations help it to survive? _____

_____

Survival:

What is its lifespan? _____

Is it endangered or threatened? _____

Use your imagination: Design a Wetland Animal

Animals and plants that live near wetlands need special **adaptations**. To survive in the salt marsh, plants must be able to use salt water. In the mudflats, animals need to be able to survive periods of being submerged in water, then left high and dry as tides ebb and flow.

Examples: Crabs survive by burrowing into the mud, while clams seal their shell tightly closed. Some birds build floating nests that rise and fall with the tides.

Name your species: _____

Is it a vertebrate or invertebrate? _____

If it is a vertebrate, is it a mammal, reptile, amphibian, bird or fish?

If it is an invertebrate, what other invertebrates are related to it?

_____

What does your animal eat? _____

_____

How does it obtain food? _____

_____

What other animals might eat this animal? _____

_____

How does this animal move? _____

_____

Where does it seek shelter? _____

_____

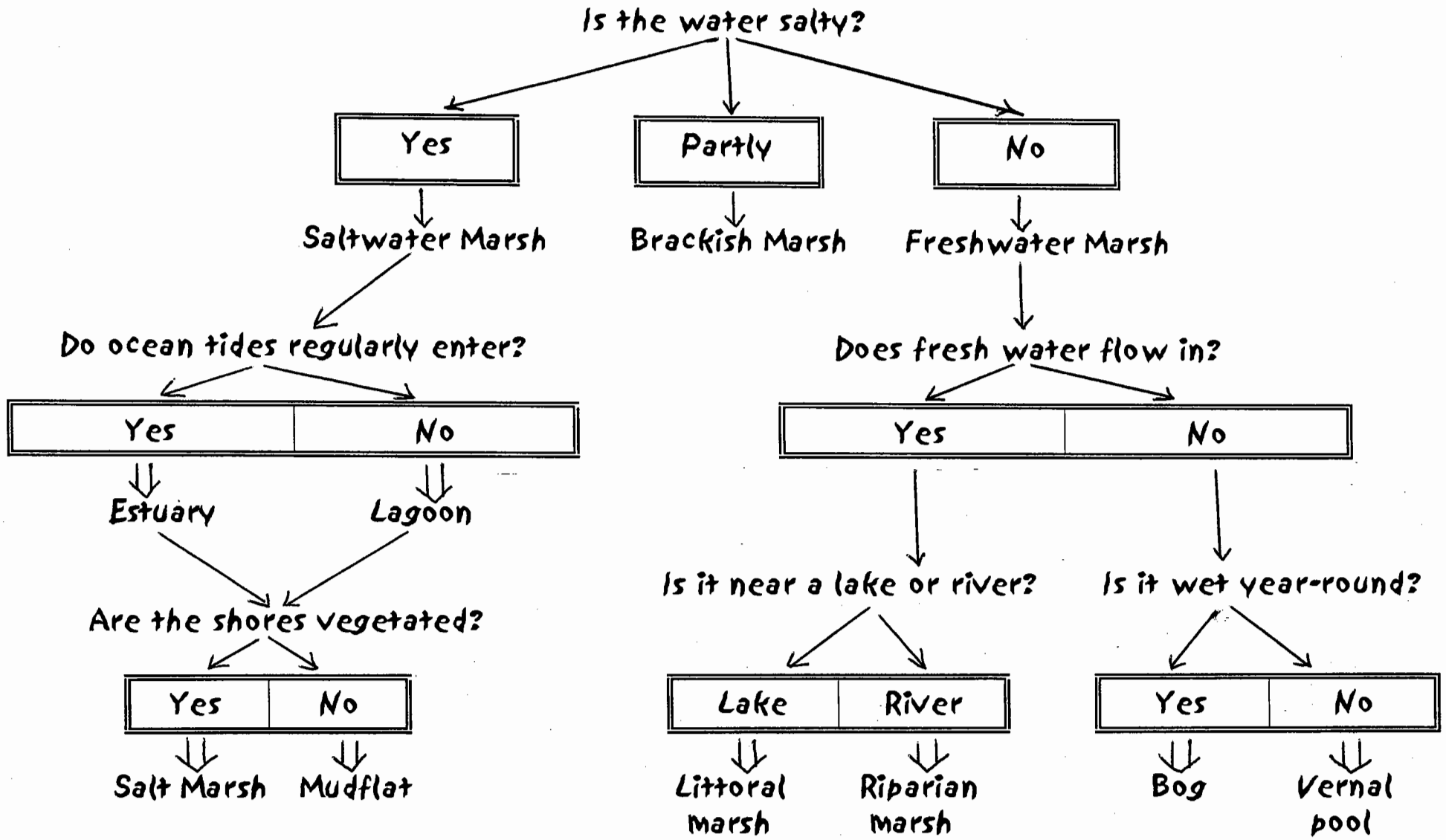
What special adaptation does this animal have to survive in wetlands?

_____

_____

Draw your animal on another sheet of paper.

California Coastal Wetlands



Projects for Further Research

Take a photo safari

Take a camera to the lagoon. Make a photographic record of birds and native plants. Return for several visits to record changes in the lagoon over time, due to weather, seasons, or erosion. Make an album, collage or poster exhibiting your photographic record of the lagoon.

Compare San Diego's lagoons

Visit at least two different lagoons. Compare the wildlife and plant life that you observe, as well as water quality and human influences.

Lagoon Artwork

Use the lagoons as inspiration for an original piece of artwork or poetry. Express your thoughts about the beauty of this fragile environment.

Dissect an owl pellet

Owls swallow their prey whole, then cough up a pellet containing indigestible parts, such as bones, fur and teeth. A single pellet may contain the complete skeleton of one or more rodents. Sterilized pellets can be obtained through science supply catalogs.

Microscopic life

Take a sample of water and place in a glass slide with a well. Observe under a microscope to study the tiny creatures that live in the water. Compare with a sample of ocean water and/or fresh water collected upstream.

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Sea World has an online guide: San Diego Wetlands
www.seaworld.org/swc/wetlands
California Coastal Commission: www.coastforyou.org
Batiquitos Lagoon Foundation: www.batiquitosfoundation.org
Sweetwater Marsh National Wildlife Refuge
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http://powayusd.sdcoe.k12.ca.us/projects/kumeyaay/ethnobotany.html

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